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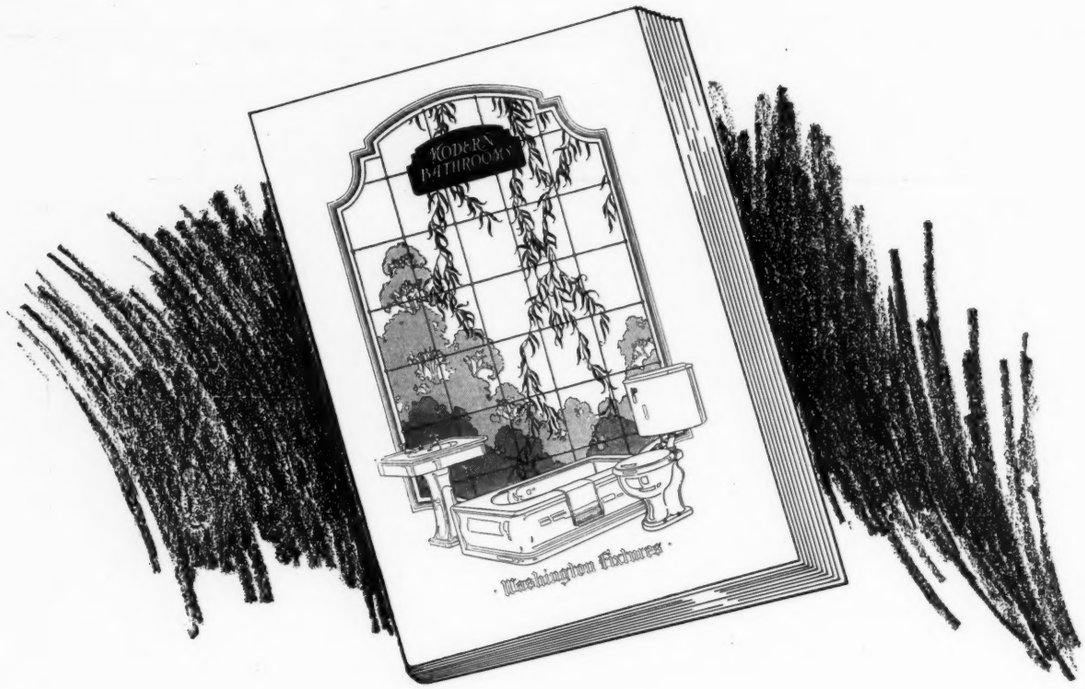

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Address all communications to Business Office, 703 Market Street, San Francisco. Telephone Kearny 7794
Price, mailed flat to any address in United States, Mexico or Cuba, $3.50 a year; single copies, 50c; to Canada $4.50 a year; foreign countries, $5.50 a year. Entered at the Post Office in San Francisco as second-class matter

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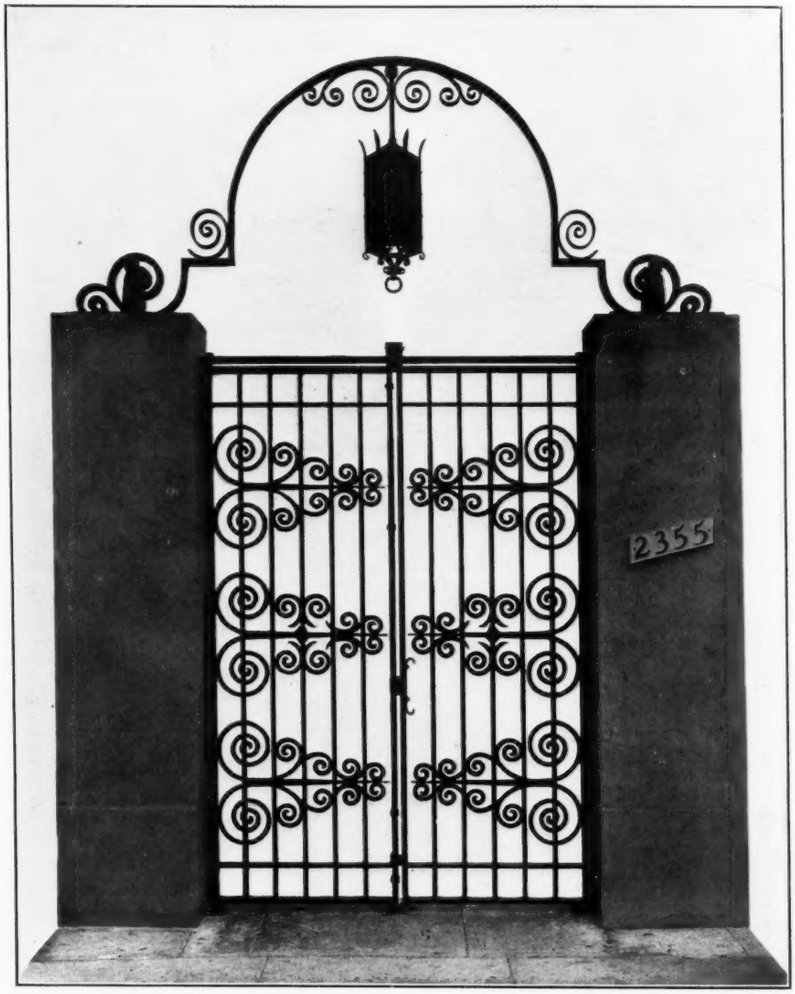

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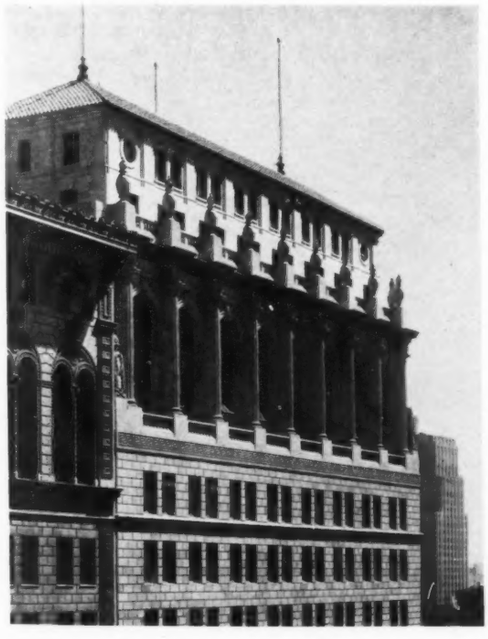
SAN FRANCISCO'S NEW PUBLIC UTILITY BUILDINGS

[BY HARRIS ALLEN, A. I. A.]

THE modern relationship between public utilities and the public is strikingly illustrated by the three buildings recently completed in San Francisco for the Pacific Gas and Electric Company and the Pacific Telephone and Telegraph Company. Not alone is every consideration shown for the convenience and comfort of the public—that considerable portion of the public which will use these buildings for the transaction of business—but consideration for the public in a larger sense is shown by the pains which have been taken in the matter of architectural character.

To say that the new buildings are a credit to the city means little or nothing. The significance lies in the fact that these public utility companies have given, if not carte blanche, at least a very liberal latitude to their architects in the matter of purely esthetic values, so that these structures stand out as ornaments—one may say, indeed, as monuments—to the city which they serve. A justifiable pride in achievement, a commendable public-spiritedness, a perspicacious business acumen, are all quite certainly indicated in their erection.



PACIFIC GAS & ELECTRIC CO. BLDG., SAN FRANCISCO
BAKEWELL AND BROWN, ARCHITECTS

Nearest to the "utilitarian" idea is the smallest of the three, the business office building of the Telephone Company (but itself of considerable size). Most conservative of the group, dignified in character, sedate in treatment, it is by no means stereotyped or even severe. Details are well designed and executed, if somewhat delicate in the upper stories for the massive colonnade below, fenestration is interestingly marked, color and texture of material are pleasing. The combination of public service and business requirements is well indicated.

An opportunity for more divergence from convention, and for a more brilliant touch in ornament, was afforded the architects of the Pacific Gas and Electric Company. An eighteen-story building on a conspicuous corner of a wide street, for a power company which could supply flood lighting of the entire structure, gave a chance for treatment which could be unique, even spectacular. No one can deny that the result is brilliantly successful and that no canon of good taste has been violated. Granted that it is a masonry design, hence subject to the criticisms of modernists who contend that the construction of a building should be expressed by its envelope, and so in the nature of a "tour de force," the fact remains that it is an extremely clever solution of the problem. It satisfies—and educates—the public, for the perfection of proportion and detail is beyond criticism. Seldom do we see such excellent modeling of sculptural ornament. But it is the coherence of the mass which constitutes its special architectural excellence.

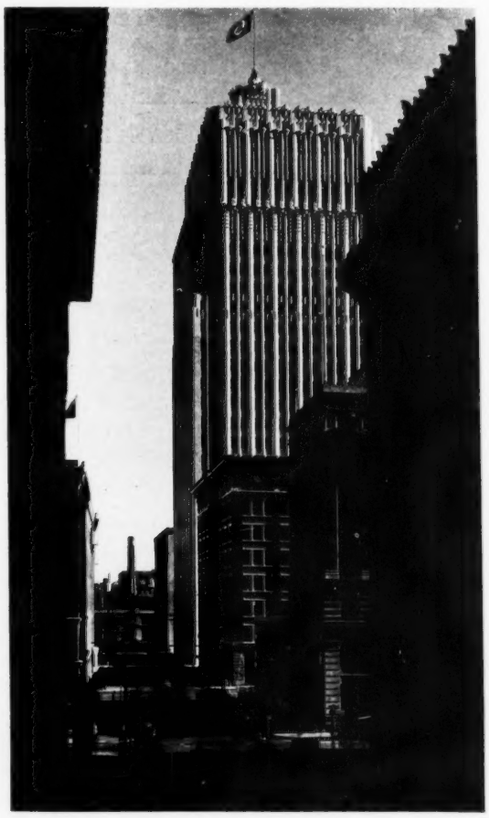
Last to be completed has been the Coast Division building of the Telephone Company. As the great pile has been slowly taking shape and the black steel skeleton has been gradually clothed with white, a profound, increasing interest has grown in the public mind. This is not confined to the layman; I will admit for myself, and I

suspect it is true of the profession generally, a feeling of uncertainty existed for some time. The effectiveness of its silhouette was unmistakable from the start, but the novelty of its treatment, in line and detail, required a degree of study and familiarity.

Time—even these few brief months—has done its work. To me this building is now a thing of beauty. Its long, lofty lines of piers and mullions, its subtle breaks of outline, diminishing upwards, the delicate accent of its eagle-crested tower against the blue sky, lead to inspiration.

Here is a surprising combination of massive strength and airy grace. Contradictory as that sounds, the building is emphatically a unit. From sidewalk to cornice (or crowning members, for there is no "cornice" as such) the vertical motifs are unbroken until they flower into the interlacing finials which mark each setback of plane. Of the same color and texture, the horizontal panels and features act as a bond, strengthen the feeling of unity in design. Again, the value of scale has been preserved in details of ornament, working to the same end. This required courage, even daring, but to use the conventional forms of ornament would have been dangerous if not fatal.

It will be noted that a distinctly Oriental quality characterizes the detail. In a building erected at "The Gateway to the Orient" this may be justified sentimentally, but I am inclined to think it justifies itself. Take, for instance, the grille in the main entrance arch, which will probably be described as Gothic by many, but which is unquestionably Chinese in design and detail; and the lobby inside, whose ceiling was inspired in pattern and color by a fragment of marvelous old Chinese brocade, with a background of faded plum color against which the figures glow softly in dull blues and greens and yellows. On the floor a broad interlacing geometrical tile pattern echoes these shades in a more subdued form. One receives a pleasant shock on entering this lobby, to find a treatment so in accord with the feeling of the exterior; a stylistic setting, no matter how dignified or magnificent, would have sounded a false note.



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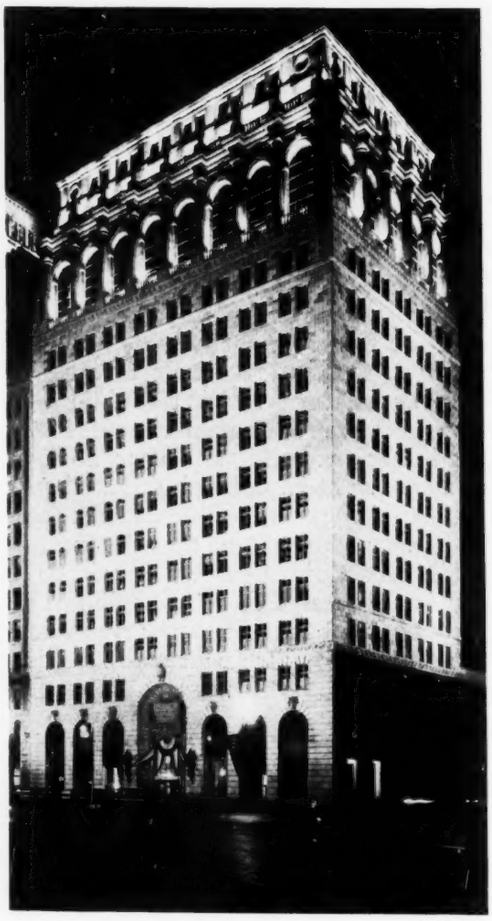
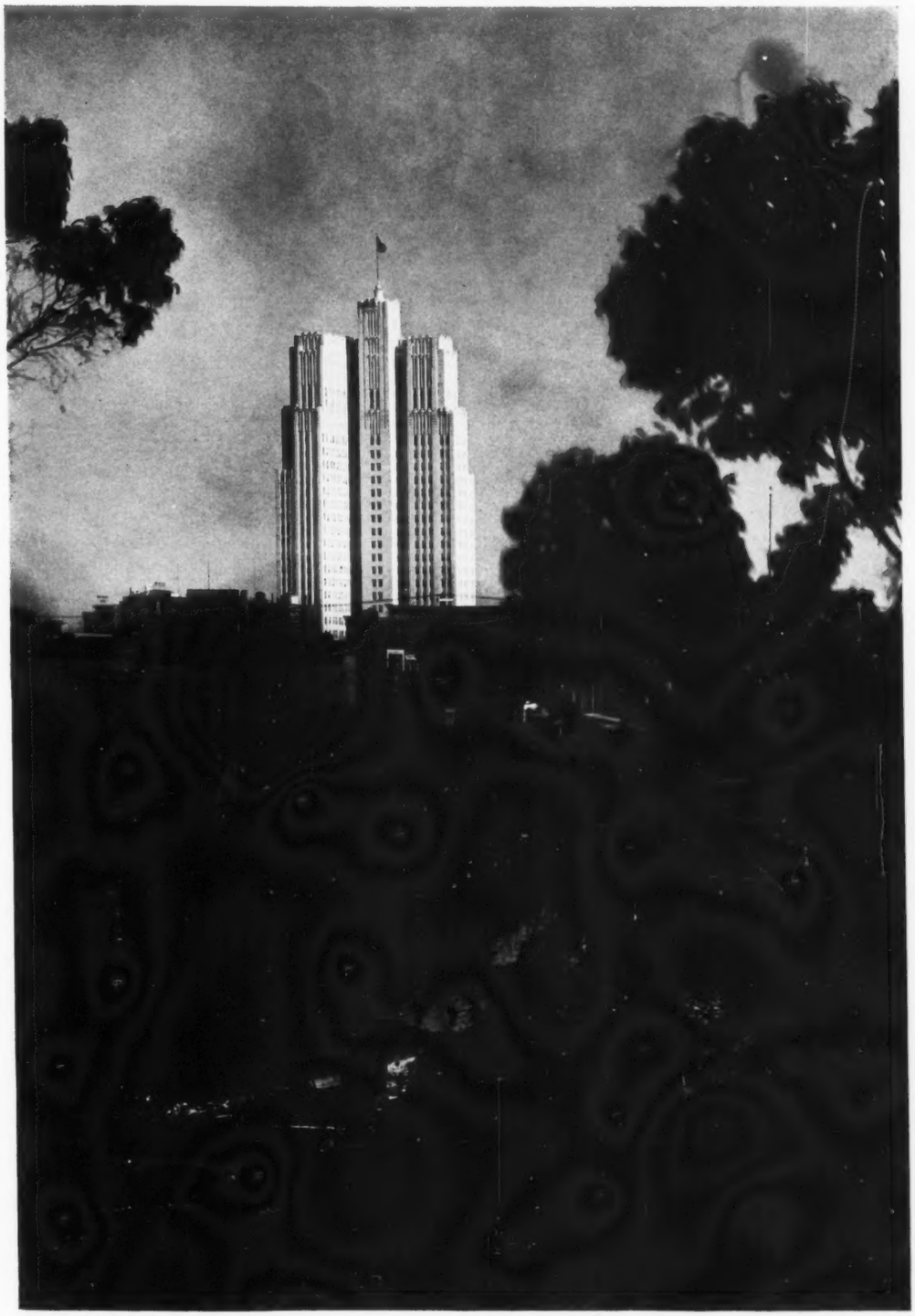


PACIFIC GAS AND ELECTRIC CO. BUILDING
BAKEWELL AND BROWN, ARCHITECTS

In the remaining few rooms which have other than severe utilitarian treatment, there is also this adaptation of Oriental motifs and coloring, handled sparingly and skillfully. The practical and technical features of the interior are an integral part of the architectural problem, but are being described elsewhere in this issue. I will only say here that with all the complication and perfection of its structural and mechanical equipment, the cost per cubic foot of this great building compares favorably with that of many smaller ones.

Rodin was wont to criticize most buildings as lacking in "profile." From near and far, from the water which surrounds the city and from the hills which dot its area, the profile of the Telephone Building adds its monumental accent to the mass profile of San Francisco—and this, perhaps, is what gives us most reason for praising its creators.



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THE "LAST WORD" IN MECHANICAL EQUIPMENT

[BY J. LESLIE MEEK]

THE remarkable completeness and modernity of heating, mechanical and electrical equipment are a source of delight to everyone conversant with such things visiting the new Coast Division building of the Telephone Company. Seldom does one see such openness, cleanliness and practical utilitarian value combined in such compact and accessible form as are to be found at basement and subbasement levels. Too much praise can not be bestowed upon architects, engineers and those responsible.

The equipment layouts were designed by Miller & Pflueger and A. A. Cantin as architects, with Atkins & Parker as mechanical engineers and Simonson & St. John as electrical engineers. The installation is really "the last word" in equipment layouts and is well worthy of study by all professional men confronted with similar problems. Space precludes detailed description in this article of the mechanical features and installation, but the following condensed description gives one an idea of the completeness and utility of the devices installed in basement and subbasement:

Two A. S. M. E. standard Stirling type water-tube boilers in one battery, each rated at 400 B. H. P. at 150 pounds, working pressure, operated by a five-horsepower electric motor-operated crude oil burner automatically controlled. These boilers operate under regular operating conditions at from three to fifteen pounds pressure for heating purposes and for emergency operation furnish 125 pounds steam pressure for the operation of the 100 H. P. power turbine to operate emergency fire pump.

The boilers are also equipped with vacuum steam atomizing oil burners for emergency operation when electric current is not available.

One automatic 100 H. P. electric motor operated 4-stage 600-foot head fire pump operating at 500 G. P. M. at 500-foot head and 750 G. P. M. at 350-foot head. This pump maintains a 50-pound water pressure at roof Siamese hose connections automatically; but under ordinary nonfire conditions, this pressure is maintained and fire and sprinkler system water supply is furnished by an automatically operated electric accumulator pump and air-pressure tank located in tower tank room. The fire pump is also directly connected to a 100 H. P. steam turbine for emergency operation when electric current is not available. The water supply for the fire pump is obtained from—

One 150,000-gallon water storage cistern located in the subbasement. This storage water is supplied by a deep well pump operating on a 185-foot depth deep well. This cistern is also the source of water supply for the toilet-flushing water system.

One incinerator boiler, equipped with a crude oil burner. This boiler can be operated as a low-pressure auxiliary for heating.

Two automatic electrically operated vacuum return and boiler feed pumps operated on heating system.

Four automatic electrically operated house water pumps interconnected for variable operation on the three cold water supply systems.

One emergency steam boiler feed pump for boiler operation when electric current is not available.

One water softening and filtering plant reduces Spring Valley water to zero softness.

One water sterilizing and cooling plant consisting of an electrically operated ozone water sterilizer. One make-up and one circulating triplex pump automatic electrically operated and pumping pure water through a cooling tank of the carbon anhydride 6-ton capacity refrigerating equipment, supplying 45-degree water to the cooled drinking water system throughout the building, through cork-covered piping to bubble and glass fountains and faucets.

Two hot-water heaters, supplying hot water to the two hot-water systems by gravity head. All hot-water supply except main flow lines is brass piped and fitted throughout.

Two sewage ejectors, automatic electrically operated, for basement and subbasement sewage, leader and rain-water disposal.

Two 10 H. P. automatic electrically operated air compressors connected to compressed air system required by elevator service, garage, etc.

Two electrically operated oil pumps, for oil supply from oil storage tank to oil burners.

One machine shop for plant and building equipment repairs. All machinery direct connected to motors.

Automatic heat-control system, tank signal systems, motor control systems, automatic fire system, pressure control panels, steam flow-meter, etc.

Ventilating system. All basement and subbasement rooms have mechanical ventilation, including boiler and switchboard rooms.

Main electrical switchboard room contains switchboard panel groups consisting of 34 panels for interior lighting, power, elevator service, exterior flood lighting, fire alarm, watchman's call system and main service.

All equipment mentioned is of the latest design for efficient and safety operation by manual and automatic control.

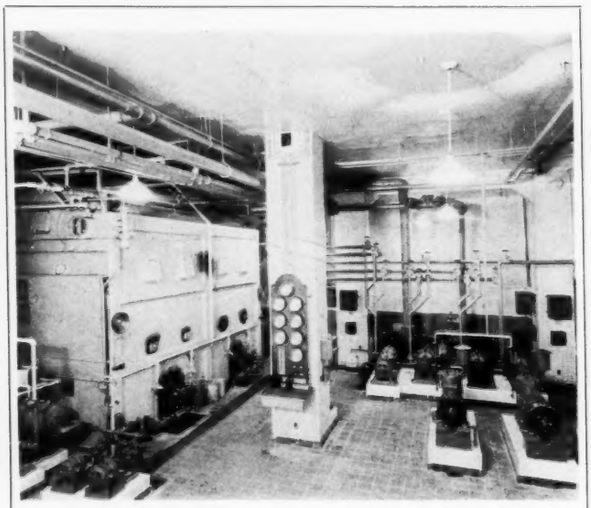
The lighting distribution system is of single phase, sixty-cycle 110-220 volts, three wire, for services and feeders, and 110 volts, two wire, for branch circuits.

A. C. power distribution system is three phase sixty cycle, 220 volts, and single phase, 110 volts, with four wire services and two or three wire single or three phase branches.

D. C. power distribution is 120-240 volts three wire, with three wire service and two wire and three wire feeders and branches where required.

The Butte Electric Equipment Co. of San Francisco were

[Concluded on page 69]



SUB-BASEMENT INSTALLATION, COAST DIVISION BUILDING
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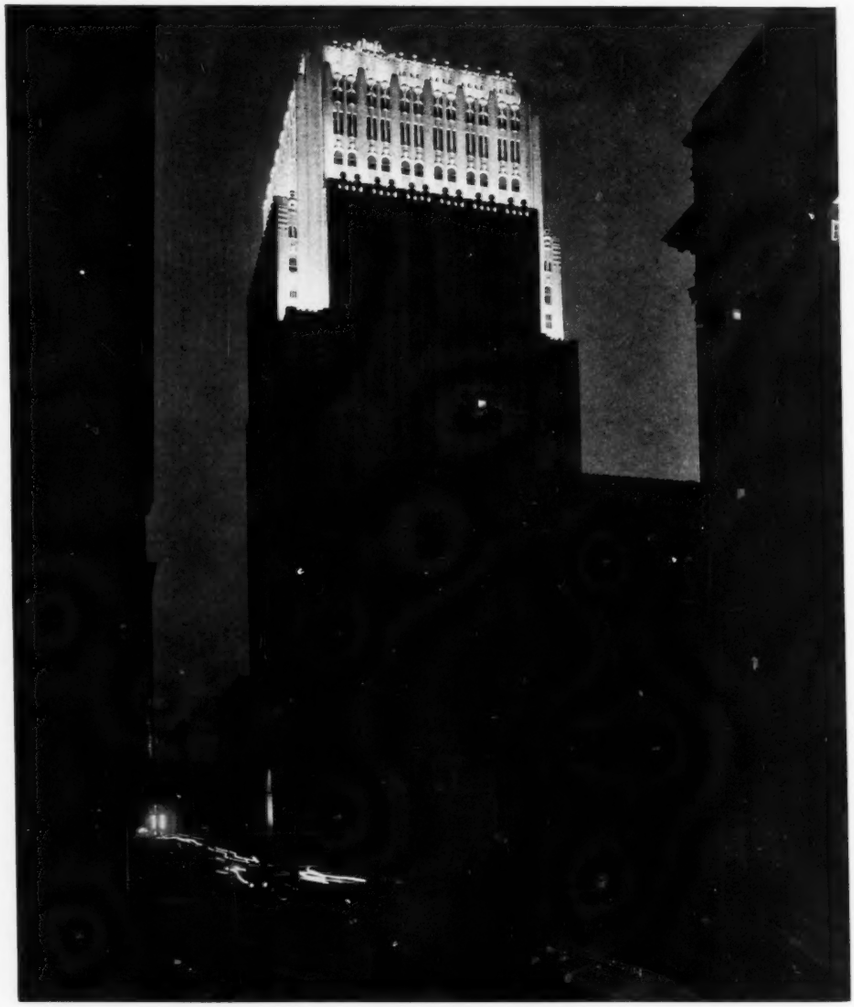

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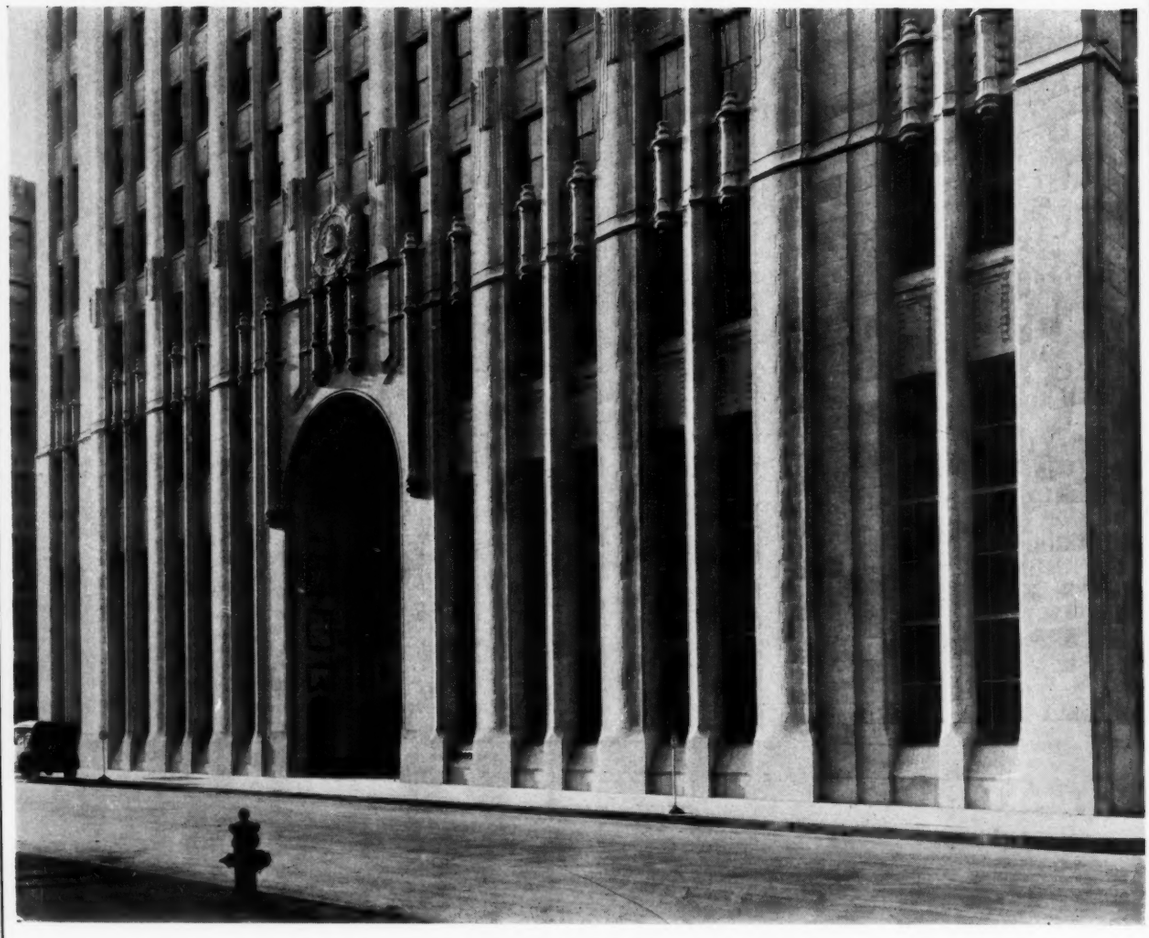

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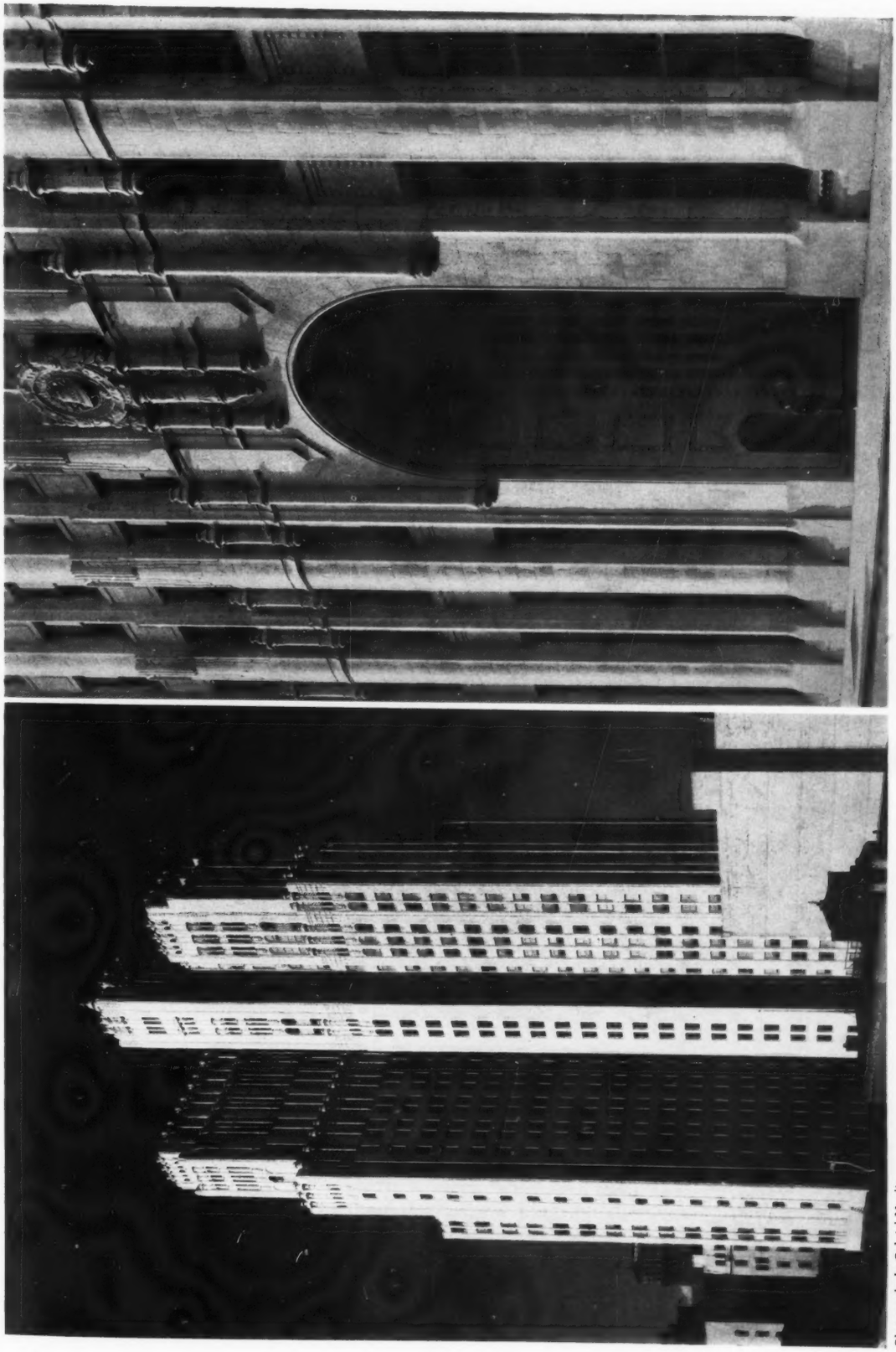

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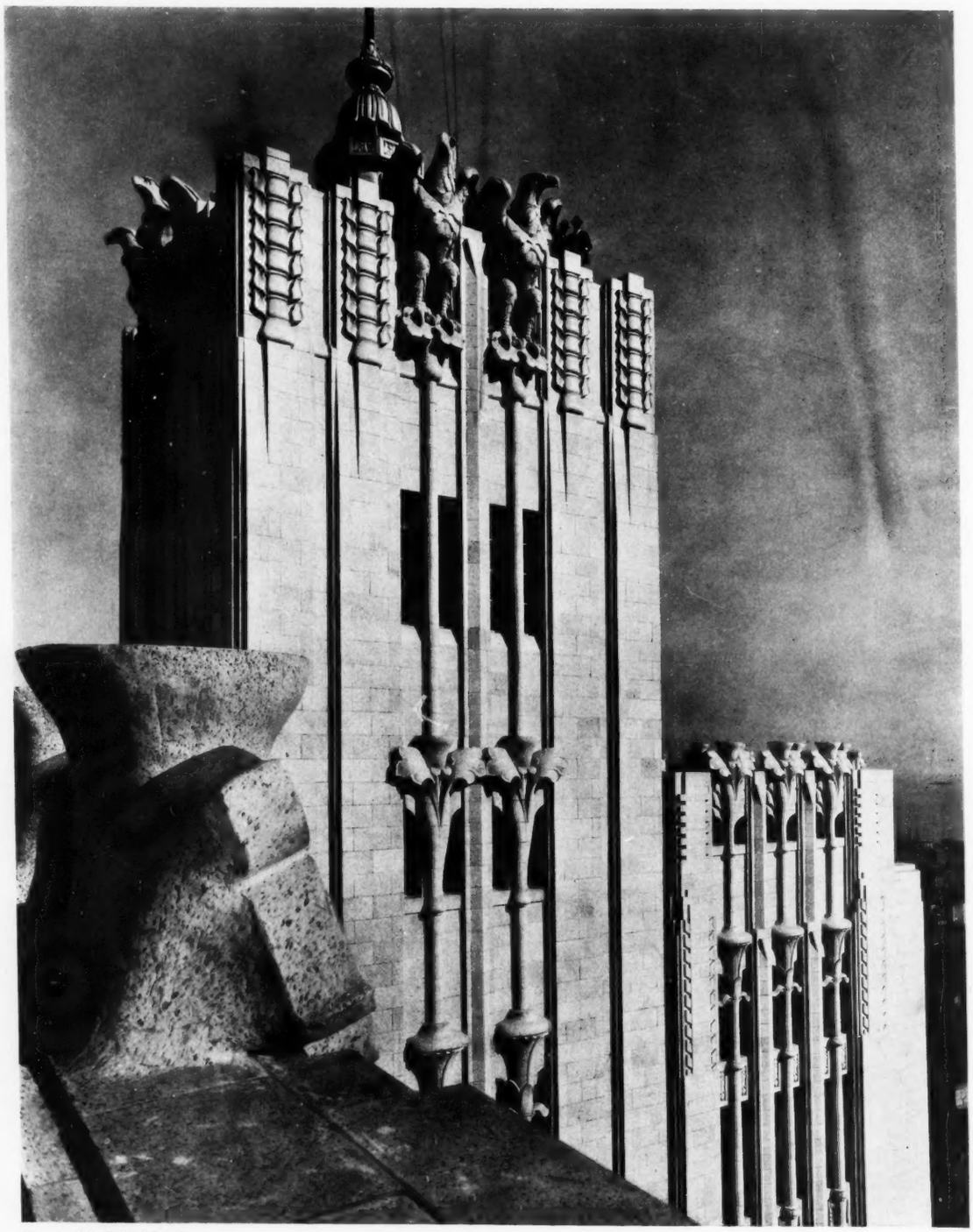

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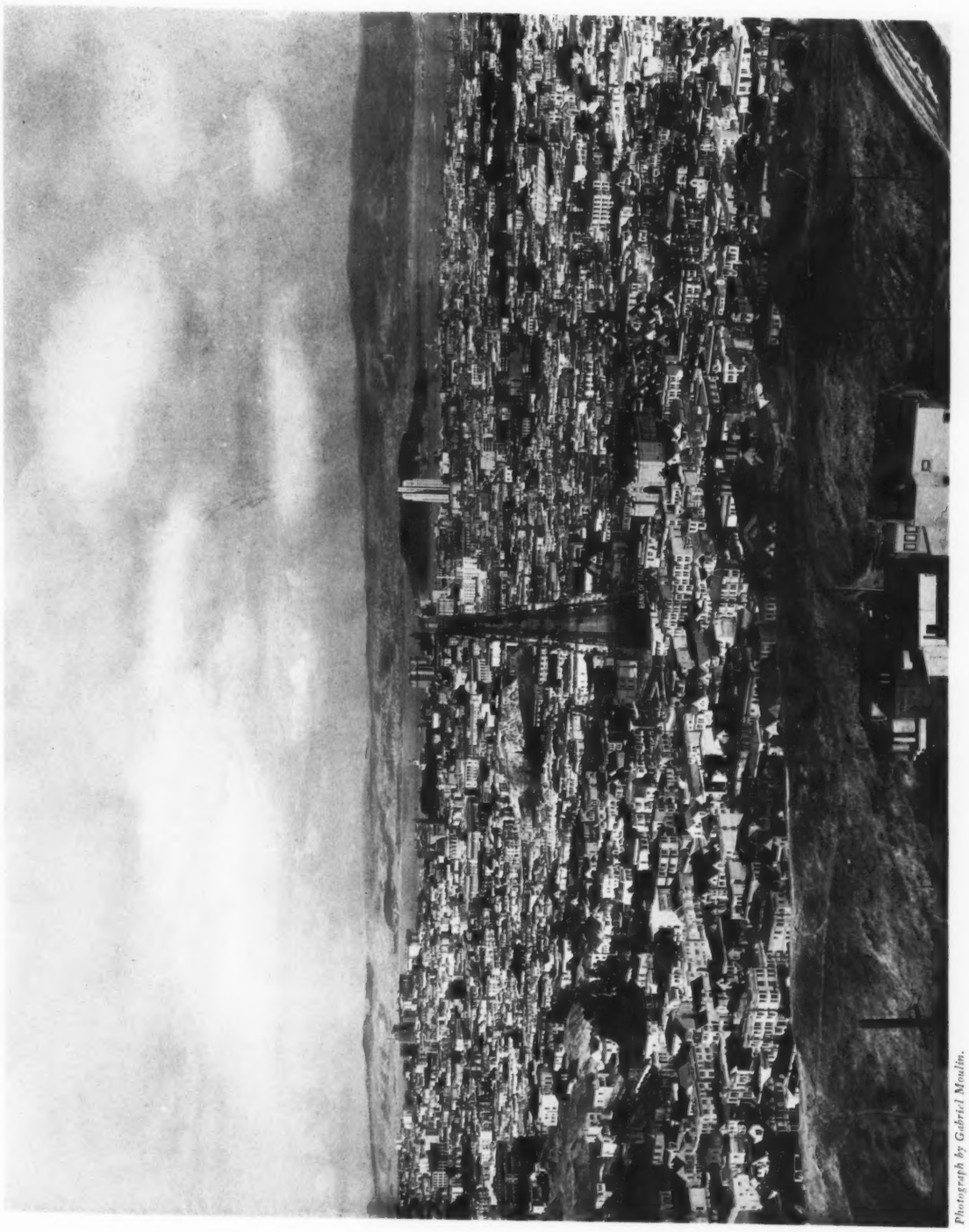

SAN FRANCISCO FROM TWIN PEAKS. IN THE RIGHT BACKGROUND, COAST DIVISION BUILDING, PACIFIC TELEPHONE AND TELEGRAPH CO., SAN FRANCISCO, CALIFORNIA. MILLER & PFLUEGER, ARCHITECTS. A. A. CANTIN, ASSOCIATE

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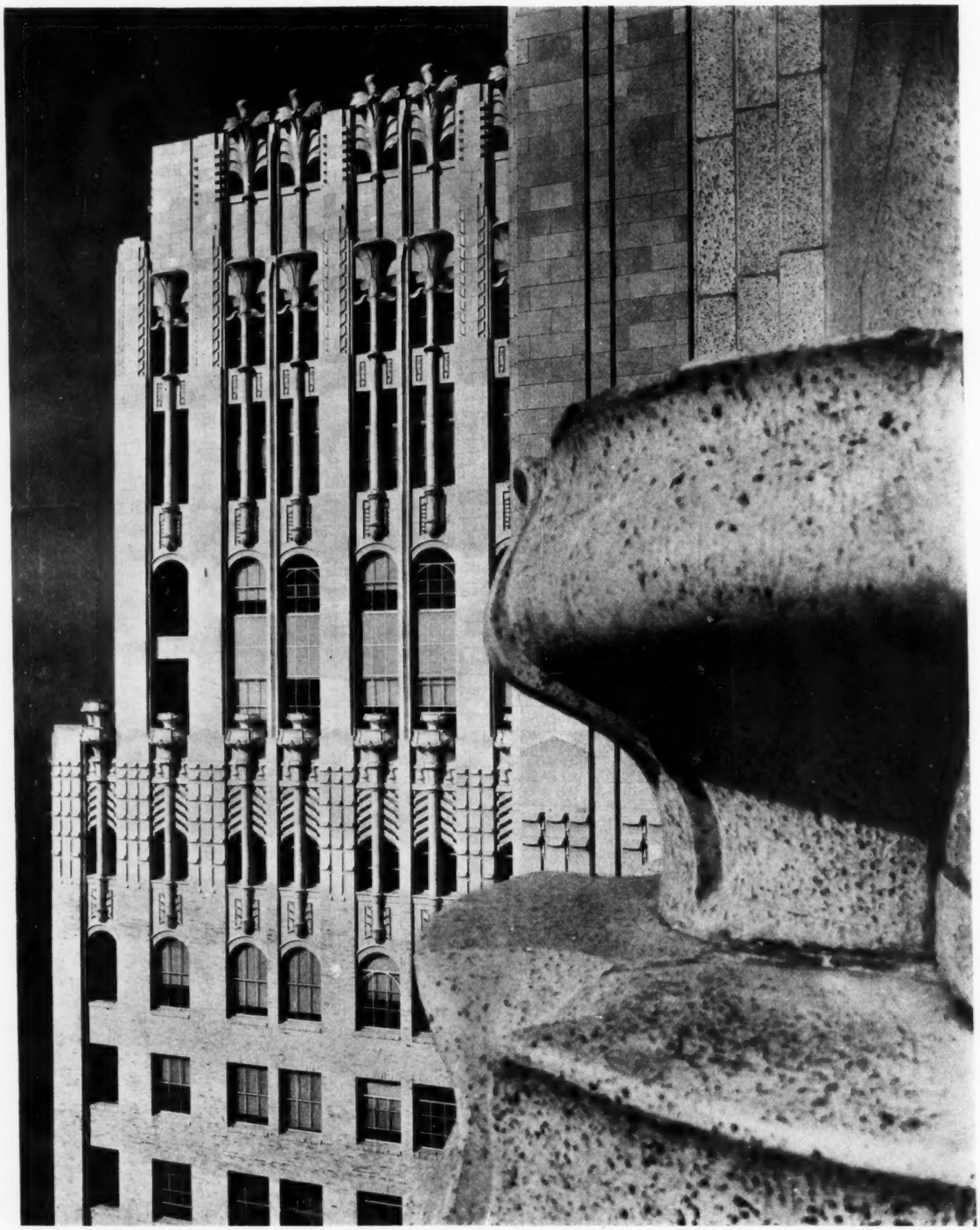

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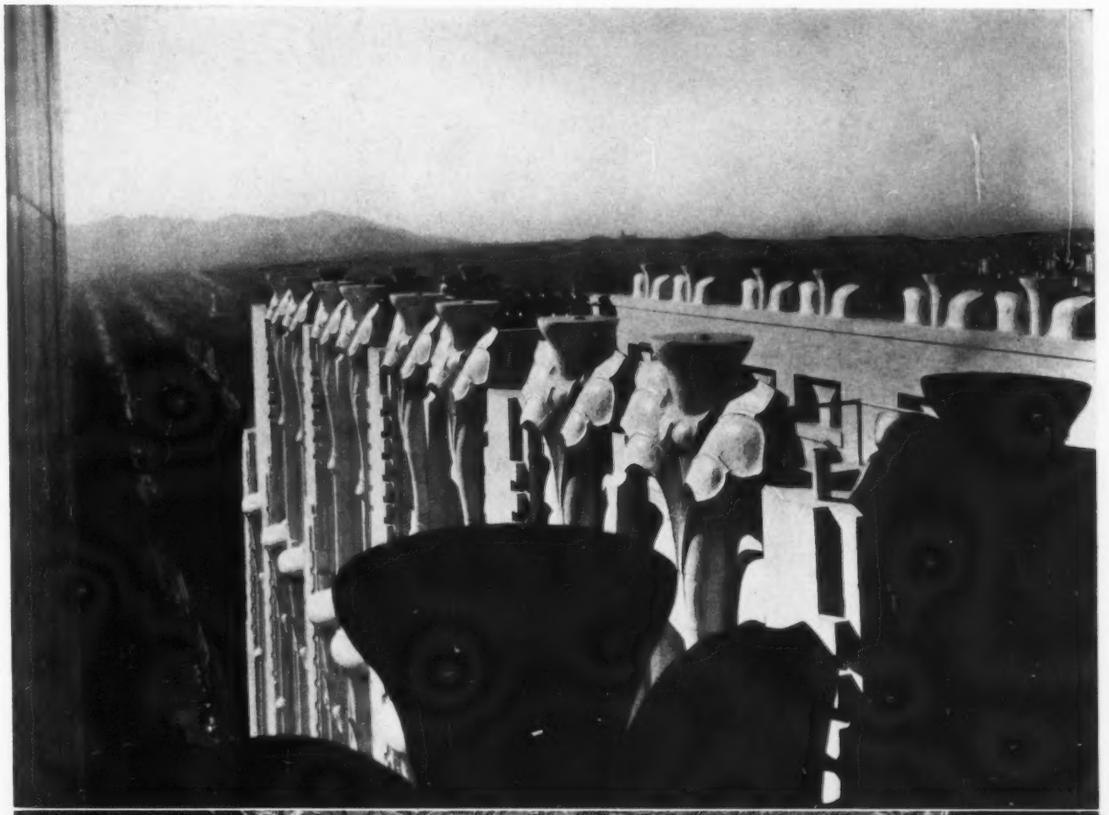

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PACIFIC TELEPHONE AND TELEGRAPH CO. BUILDING · SAN FRANCISCO
Miller & Pflueger and A. A. Cantin, Assoc. Architects · A. Quandt & Sons, Painters

THE new Pacific Telephone and Telegraph Co. Building stands out as a great monument on the rapidly changing San Francisco skyline. Fuller products play no small part in this great architectural achievement. Pioneer White Lead was used exclusively and glass for the entire building was furnished by W. P. Fuller & Co.

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Thirty-two branches in twenty-six Pacific Coast and Intermountain Cities
Factories at South San Francisco, Los Angeles and Portland

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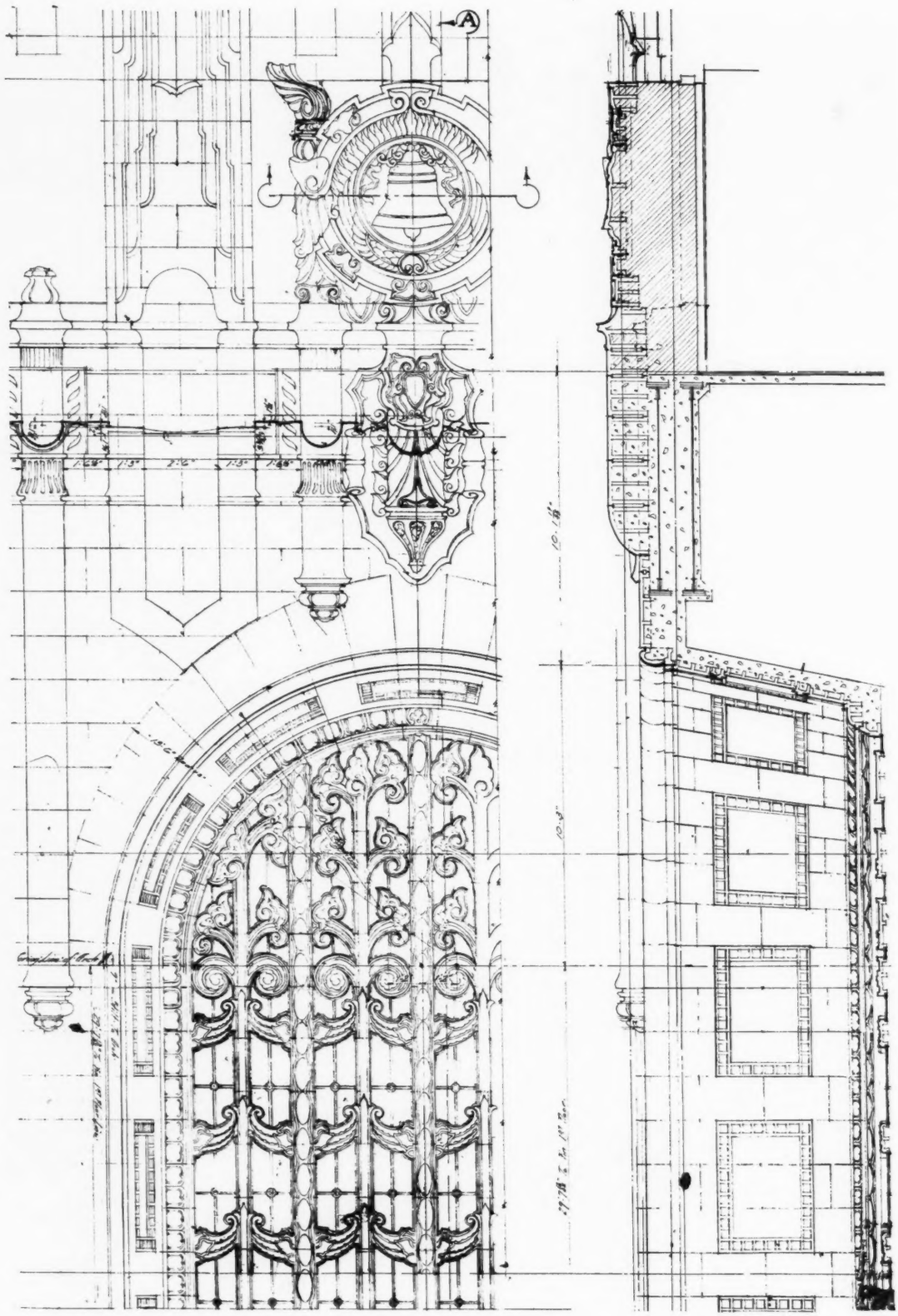
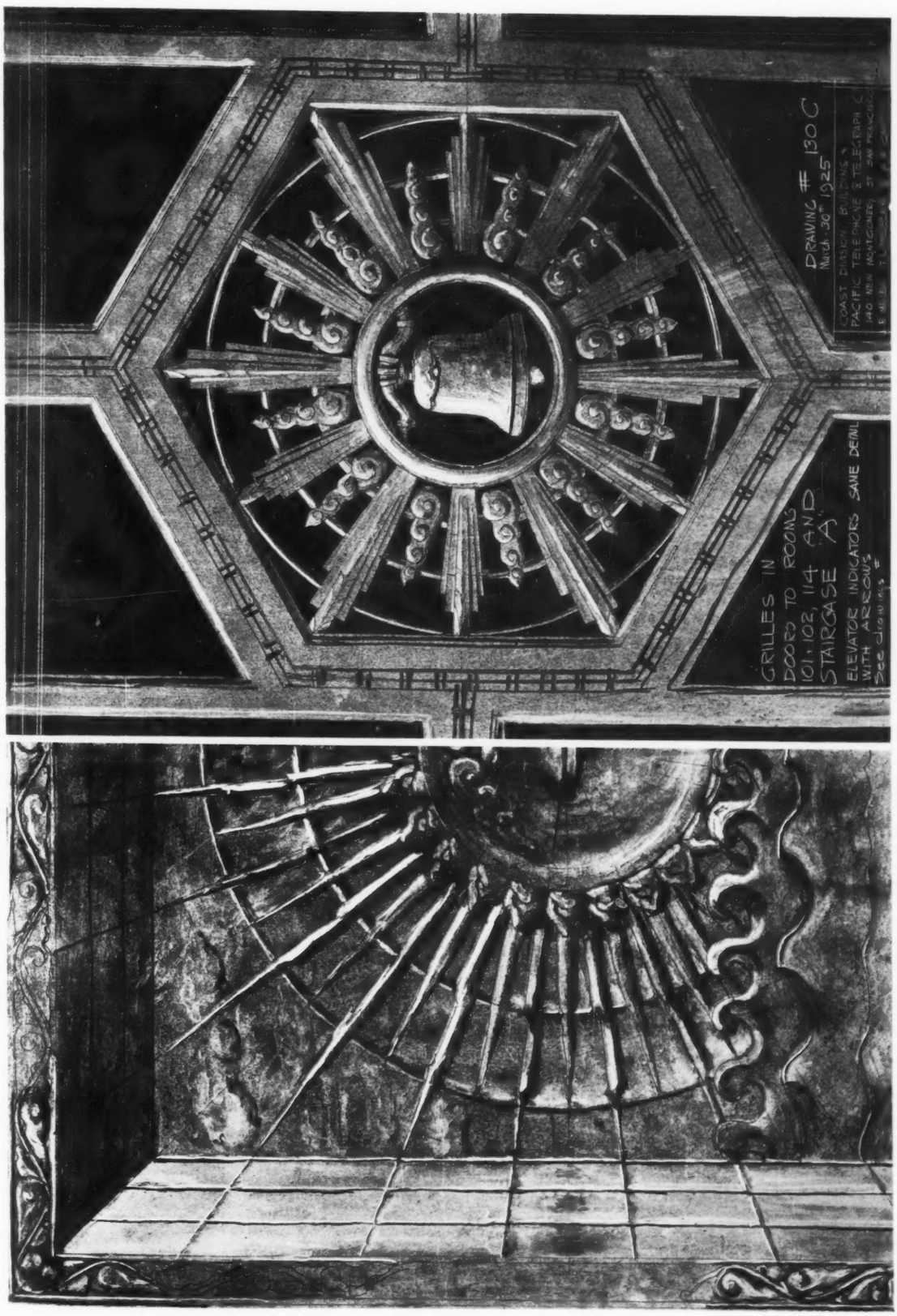
PIONEER WHITE LEAD

Photographs by Gabriel Moulin.

ABOVE, AUDITORIUM; BELOW, DIRECTORS' ROOM; COAST DIVISION BUILDING, PACIFIC TELEPHONE AND TELEGRAPH CO., SAN FRANCISCO, CALIFORNIA. MILLER & PFLUEGER, ARCHITECTS. A. A. CANTIN, ASSOCIATE



DETAIL OF MAIN ENTRANCE GRILLE, COAST DIVISION BUILDING, PACIFIC TELEPHONE AND TELEGRAPH CO., SAN FRANCISCO, CALIFORNIA. MILLER & PFLUEGER, ARCHITECTS. A. A. CANTIN, ASSOCIATE


DRAWING # 130 C
March 30th 1925
COAST DIVISION BUILDINGS
PACIFIC TELEPHONE & TELEGRAPH
140 NEW MONTGOMERY ST SAN FRANCISCO
GRILLES IN DOORS TO ROOMS 101, 102, 114 AND STAIRCASE A
ELEVATOR INDICATORS SAME DETAIL WITH ARROWS
See drawing #

DETAIL OF FIRE BACK, DIRECTORS' ROOM; DETAIL OF ELEVATOR GRILLE; COAST DIVISION BUILDING, PACIFIC TELEPHONE AND TELEGRAPH CO., SAN FRANCISCO

SHEET METAL PRODUCTS

ELEVATOR FRONT, COAST DIVISION BUILDING
MILLER & PFLUEGER, ARCHITECTS, A. A. CANTIN, ASSOCIATE

HOLLOW METAL DOOR AND TRIM
COAST DIVISION BUILDING

HOLLOW Metal Trim, Elevator Fronts and Cabs for the Coast Division Building of the Pacific Telephone and Telegraph Co., San Francisco, manufactured and installed by the Forderer Cornice Works.

Sixteen hundred and twenty-five Campbell Solid Metal Window Frames and Sash for the Coast Division Building furnished and installed by the Forderer Cornice Works.

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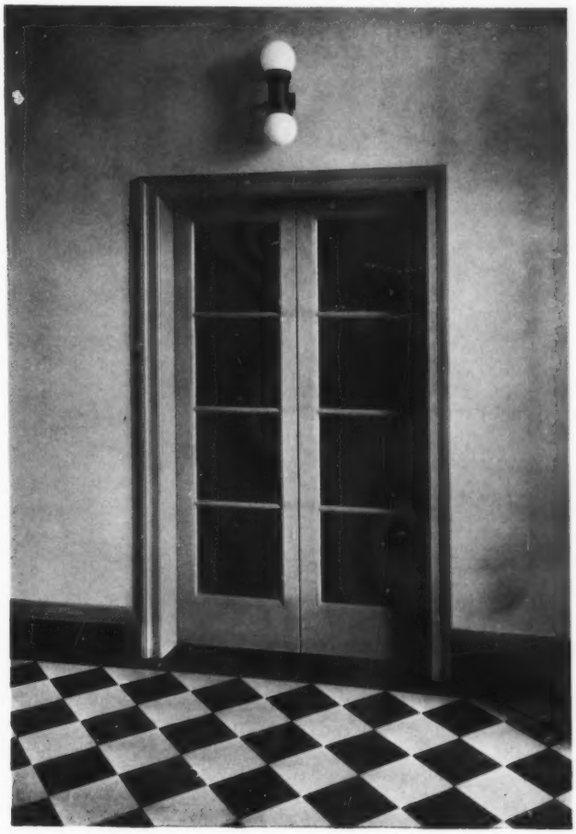
Executive Offices and Factory:
Potrero Avenue and Sixteenth Street, San Francisco

Los Angeles Office:
927 W. M. Garland Building, 9th and Spring Streets

SHEET METAL PRODUCTS

PACIFIC GAS AND ELECTRIC BUILDING
BAKEWELL & BROWN, ARCHITECTS



ELEVATOR FRONT
PACIFIC GAS AND ELECTRIC BUILDING

SHEET Metal Work, Nonpareil Skylights, Hollow Metal Doors and Trim and Met-Elec Base for the Pacific Gas and Electric Company Building, San Francisco, manufactured and installed by the Forderer Cornice Works.

Campbell Metal Windows
Nonpareil Skylights
Sheet Metal Work
Met-Elec Base
Baked Enamel Finish
Hollow Metal Doors and Trim

FORDERER CORNICE WORKS

Executive Offices and Factory:
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Los Angeles Office:
927 W. M. Garland Building, 9th and Spring Streets

THE PACIFIC GAS AND ELECTRIC CO. BUILDING

[BY CHARLES W. MEIGHAN]

NOTABLE among the office buildings which have reared their noble heads to the San Francisco skyline during the past year is the distinctive division headquarters of the Pacific Gas and Electric Company. A large office building with extensive frontage on a street as wide as Market street and extending 18 floors above the street level afforded ample opportunity for distinguished architectural treatment and it seems to be generally agreed that Bakewell & Brown, the architects, have made the most of their opportunity.

Treatment, constructive and progressive, utilitarian but none the less impressive, has given this large and important public utility building a definite character already quite positively established in the public mind and certain to become more permanently fixed in general esteem with the mellowing of time. For, in architecture, not like so many other things, one can not say that "familiarity breeds contempt." On the contrary, familiarity inspires something akin to love in the case of well-designed and carefully executed buildings.

That this is the case with the Pacific Gas and Electric Company building, or with other of our fine new semipublic buildings, many "a man in the street" who sees it daily can testify. It seems to me, as a mere layman, that this creation of a fine building which causes men, even in the rush and hurry of crowding for a ferry, to pause for a moment and, almost subconsciously, to catch their breaths with the sheer loveliness of seeing an old friend in a new play of light or shadow, of creating so useful a thing as a great public utility building and yet giving it so much of outward beauty that it takes on, with time, a character, an identity and as much a personality as a sentient being, would compensate in great degree the architect whose creation it is, for the many things that reward other artists, yet are denied him.

We have been long accustomed to expect sermons in stone in our temples, epics in marble in our palaces, poems in brick in our auditoriums, but it is a recent and happy development, and typically American, that we are coming to be given these same artistic harmonies in structures of cold steel and concrete and stone and brick and all the other materials which go to make up the complex modern business structure.

One of the most successful solutions of the office building problem has been the simple grouping of a multitude of elements into a few divisions so that the essential unity is not lost. The modern American structure, be it office building, warehouse or even grain elevator, has as its basis some traditional architectural style and its scheme of composition is such that when the many complex parts are completed the building is a single unit.

In the Pacific Gas and Electric Company building this unity has been accomplished by the division of the structure into a high and important base, a general shaft and, finally, a crowning motive.

In a general way the composition was arranged to be in harmony with the adjoining Matson building, while an effort was also made to have certain contrast to that building and to adopt a scale and mass which would by such contrast show the semipublic character of this building and give it an identity of its own.

The entrance is marked by the story of the power industry, framed by two massive figures Keystones recurring over the first-story arches serve to carry the interest around the two facades and lead up to the central motive and its larger keystone.

The base of the building runs up through three stories to be in keeping with its neighbor. With the height of the first story and the large spaces of the first and second stories, this becomes a natural and effective arrangement. The main shaft between the base and the crowning motive, stripped of all ornament, becomes a great pedestal for the columns and arcade of the fourteenth and fifteenth floors. Uniform distribution of windows over the entire surface makes them but incidents in the general mass, so that they merely give texture to the shaft and do not count as separate units.

In marked and happy contrast to the simplicity of the treatment of the shaft are the base and crowning motive. The base with its deep reveals and consequent deep shadows is colored by ornaments sparingly used and placed with nice discrimination. The arcade at the top is broken up so as to give a brilliant play of light and shadow and the varying planes and surfaces of walls and columns give an impression of richness. Arch forms, decorations and mouldings are used in both base and arcade.

In the entire scheme there is complete accord between the actual spaces and the architectural treatment and the architects have achieved their result with no sacrifice of practical requirements to architectural requirements, or *vice versa*.

For the most part, the interior plan is similar to that of any logical modern office building. The offices are well lighted and well arranged. Those departments which are in closest touch with the public are placed on the first floor. The entrance leads directly into a large and handsome vestibule running parallel to the front of the building and at either end of this vestibule are found the entrances to the main departments of this floor. The elevator lobby is ample and well proportioned. Treatment throughout is simple and dignified. From the second to the sixteenth stories the typical floors all have the same general arrangements. The executive offices, with lobby and corridors paneled in oak, are located on the fourteenth floor. The sixteenth floor is set back for architectural reasons and there is a balcony or promenade around this story. Here are located the employees' restrooms, restaurant and library. The color scheme of the entire building is singularly appropriate and harmonious.

The limits of space preclude in this article anything like a complete description of this building, even if the writer had the ability to give such a description, which he has not, but it is hoped that from this brief mention of some of the "high lights" of the architectural treatment, the reader has gained at least an inkling of the general excellence of the structure.

To satisfy one's own esthetic sense, to please those who are to occupy a structure and provide adequately for their daily requirements and to give to the public at large a creation which stimulates the imagination and inspires a greater respect for beauty—these are no mean achievements and it can not be denied that these things Bakewell & Brown have done in this modern laboratory of public service.

* * *

UNIQUE FLORIDA HOME

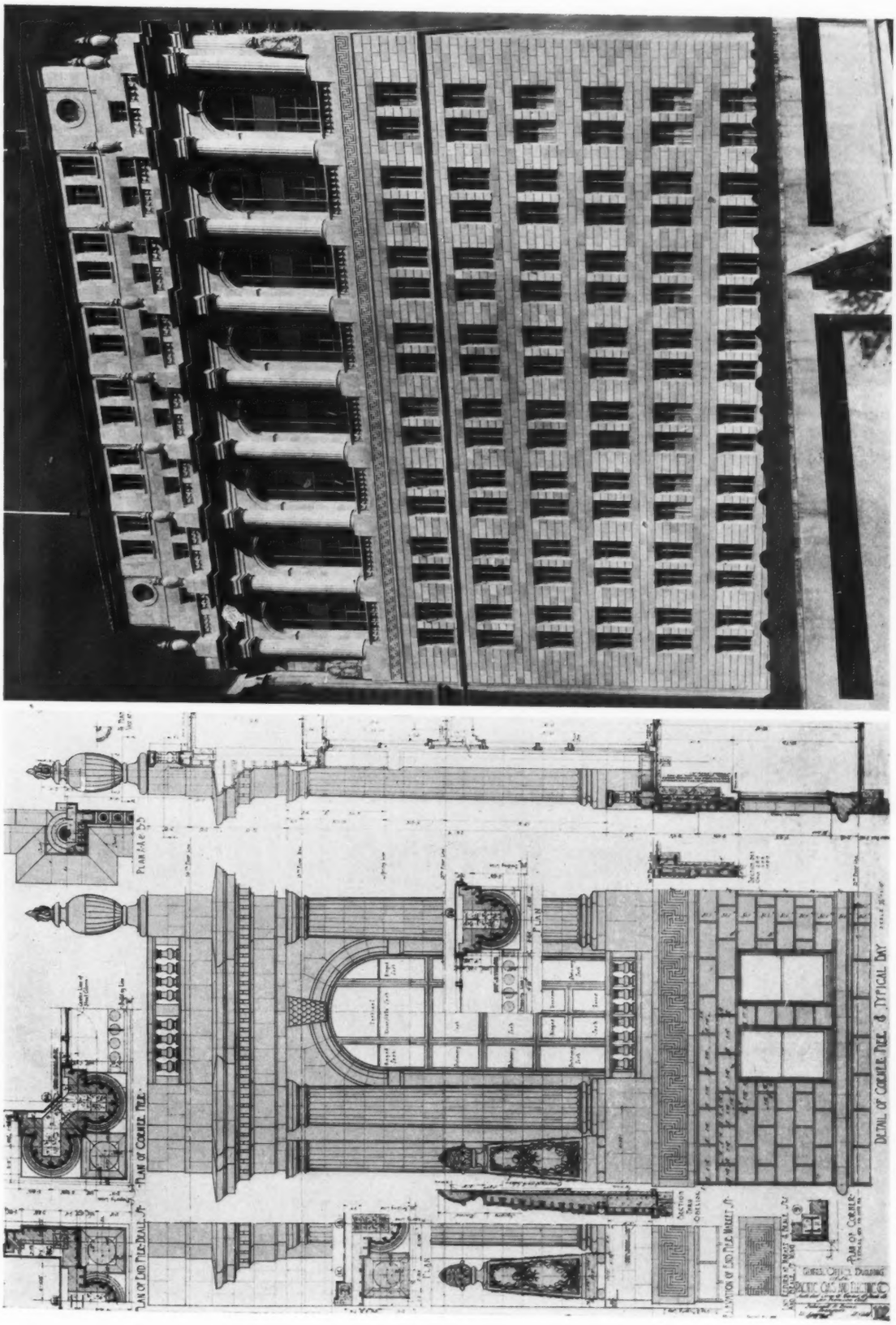
The residence of J. F. Bernet, which has recently been completed in Coral Gables, Florida, is one of the most unique homes ever built in this country. Designed after the Mediterranean style by J. Mack Sawyer of North Carolina, the house has been constructed without the use of wood, nails or screws except in the doors and kitchen cabinets. The cost was $75,000.

Photograph by Gabriel Moulin.

PACIFIC GAS & ELECTRIC CO. BUILDING, SAN FRANCISCO. BAKEWELL AND BROWN, ARCHITECTS

Photograph by Gabriel Moulin.

MAIN ENTRANCE, PACIFIC GAS & ELECTRIC CO. BUILDING, SAN FRANCISCO.
BAKEWELL AND BROWN, ARCHITECTS



DETAIL OF UPPER STORIES, PACIFIC GAS & ELECTRIC CO. BUILDING, SAN FRANCISCO. BAKEWELL AND BROWN, ARCHITECTS

Photograph by Gabriel Moulin.

Complete Electrical Installation

in

Pacific Telephone and Telegraph Co.
and Pacific Gas and Electric Co. buildings

by

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Trade Mark BEECO Registered

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Bakewell & Brown, Architects

Entire Elevator Equipment

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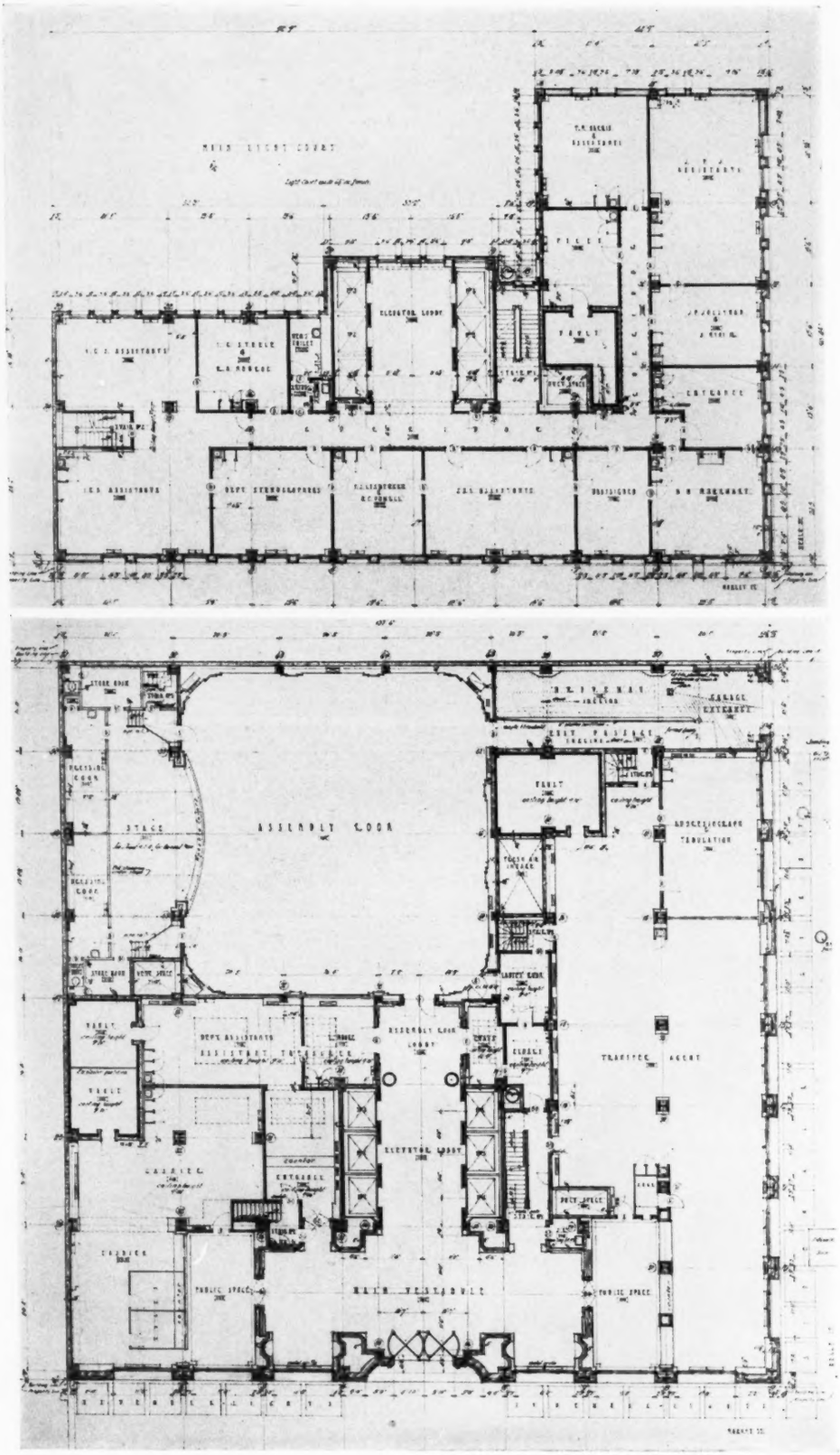
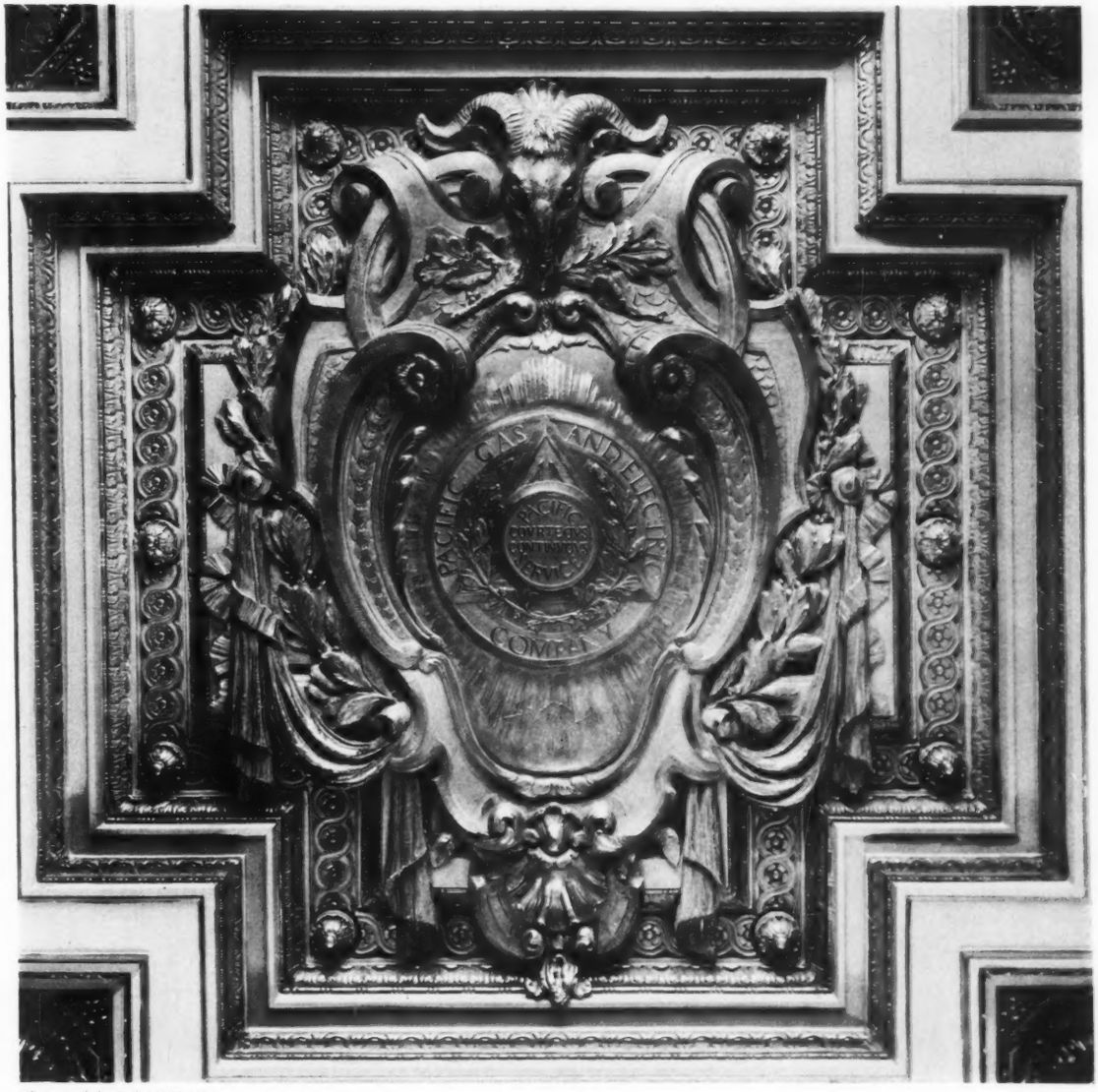
Photographs by Gabriel Moulin.

ABOVE, AUDITORIUM; BELOW, MAIN LOBBY; PACIFIC GAS & ELECTRIC CO. BUILDING, SAN FRANCISCO.
BAKEWELL AND BROWN, ARCHITECTS



ABOVE, TYPICAL FLOOR PLAN. BELOW, FIRST FLOOR PLAN. PACIFIC GAS & ELECTRIC CO. BUILDING, SAN FRANCISCO. BAKEWELL AND BROWN, ARCHITECTS



Photograph by Gabriel Moulin.

CEILING PANEL, PACIFIC GAS & ELECTRIC CO. BUILDING, SAN FRANCISCO.
BAKEWELL AND BROWN, ARCHITECTS

BUSH STREET BUSINESS OFFICE, PACIFIC TELEPHONE AND TELEGRAPH CO., SAN FRANCISCO. BLISS & FAVILLE, ARCHITECTS

Architectural Terra Cotta

The architects of all the prominent buildings finished this year for the Pacific Telephone and Telegraph Company in California have in each case specified Architectural Terra Cotta for use on the main facades. The above is one of several of these prominent buildings for which we made the Terra Cotta.

N · CLARK · & · SONS

MANUFACTURERS OF

Architectural Terra Cotta, Pressed Brick, "Ramona" Roof Tile and Kindred Clay Products

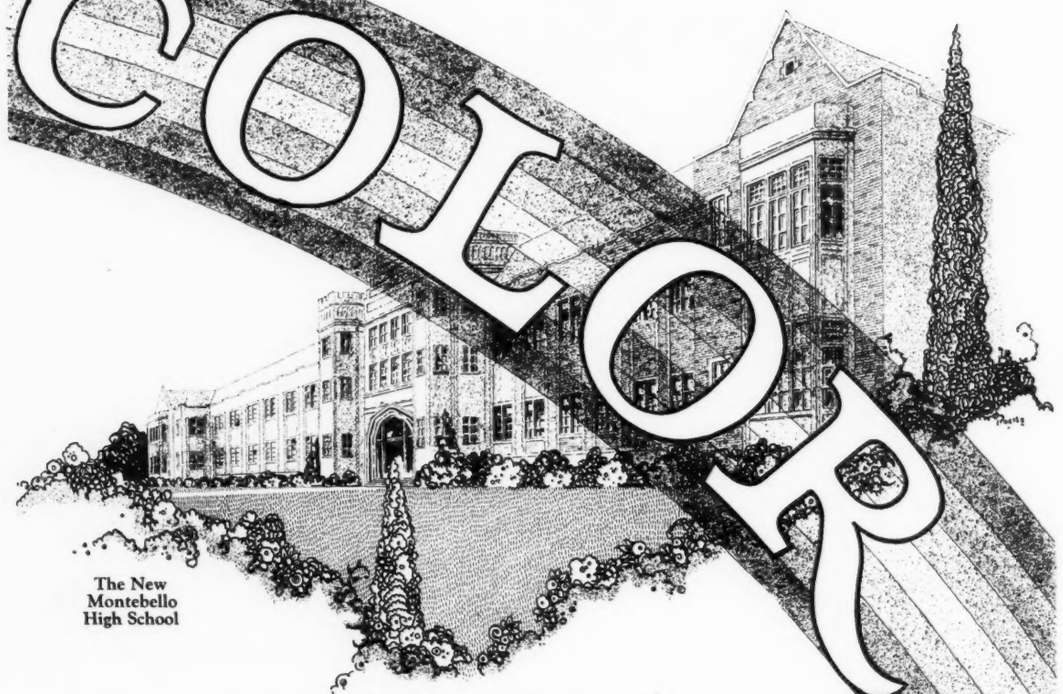
112-116 NATOMA STREET · SAN FRANCISCO

Photograph by Gabriel Moulin.

BUSINESS OFFICE, PACIFIC TELEPHONE & TELEGRAPH CO., SAN FRANCISCO. BLISS & FAVILLE, ARCHITECTS

.....to be truly "CALIFORNIAN" Modern Buildings must have.....

COLOR



The New Montebello High School

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E. E. YOUNG, ARCHITECT. WILLIAM HEIDENREICH, MASON

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The cost of Face Brick walls is substantially lowered by backing the brick with Dickey Mastertile instead of solid masonry.

Dickey Mastertile has the fire- and decay-resistance inherent in burned clay. Its air cells make it approximately half the weight of solid masonry.

Each 8-inch Dickey Mastertile takes the place of six brick in the wall. *Half as heavy—six times as large!* This means a saving in cartage and handling, a saving of weight, a saving of one-third to one-half the labor, and one-half the mortar in setting up the wall. No furring is ordinarily necessary, the plaster being applied directly to the tile.

This method of wall construction is finding ever-increasing favor with architects.

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Partition Tile, Furring Tile, Paving Brick, Sewer Brick, Step and Walk Brick, Drain Tile, Flue Lining

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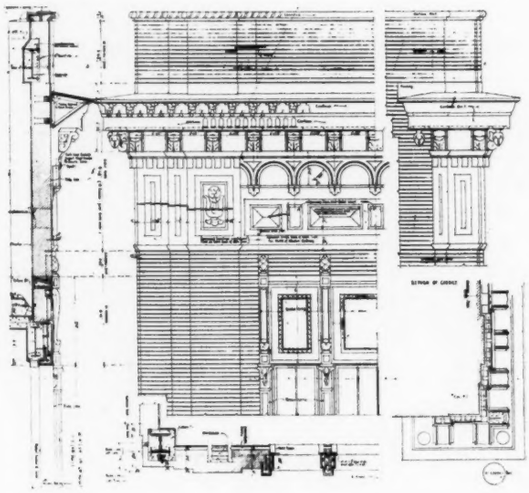
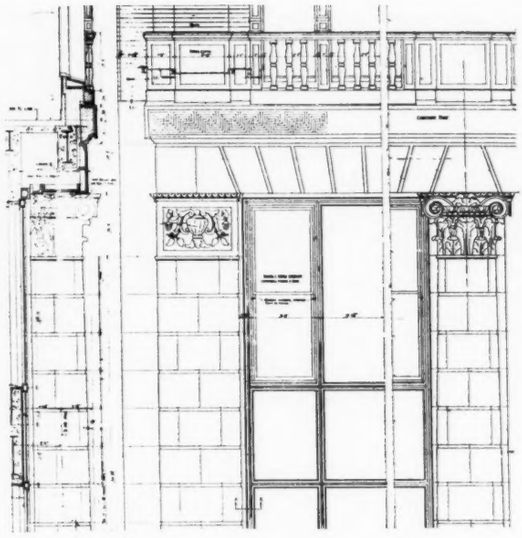
Associated Companies

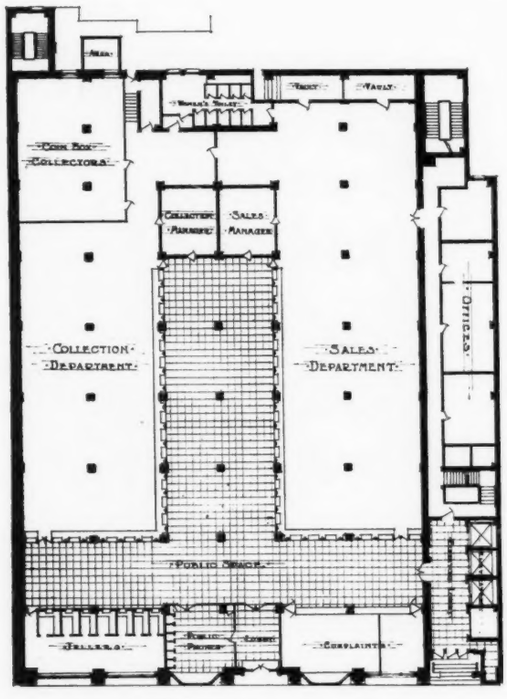
SAN FRANCISCO AND OAKLAND

Photograph by Gabriel Moulin.

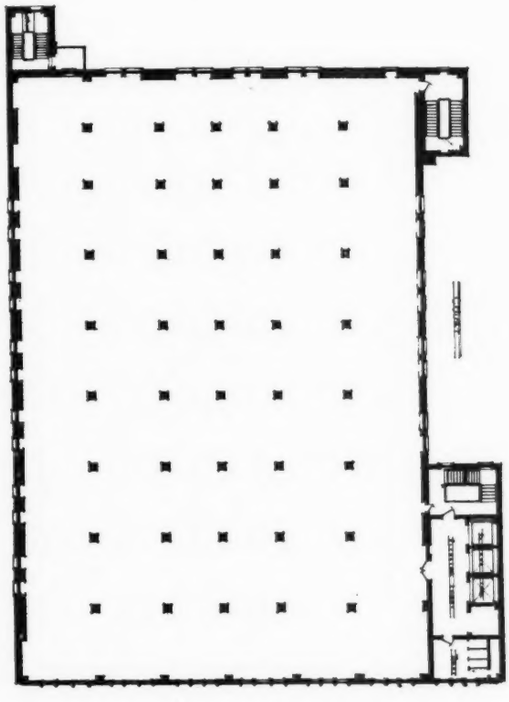
DETAIL-OF LOWER STORIES, BUSINESS OFFICE, PACIFIC TELEPHONE & TELEGRAPH CO., SAN FRANCISCO.
BLISS & FAVILLE, ARCHITECTS





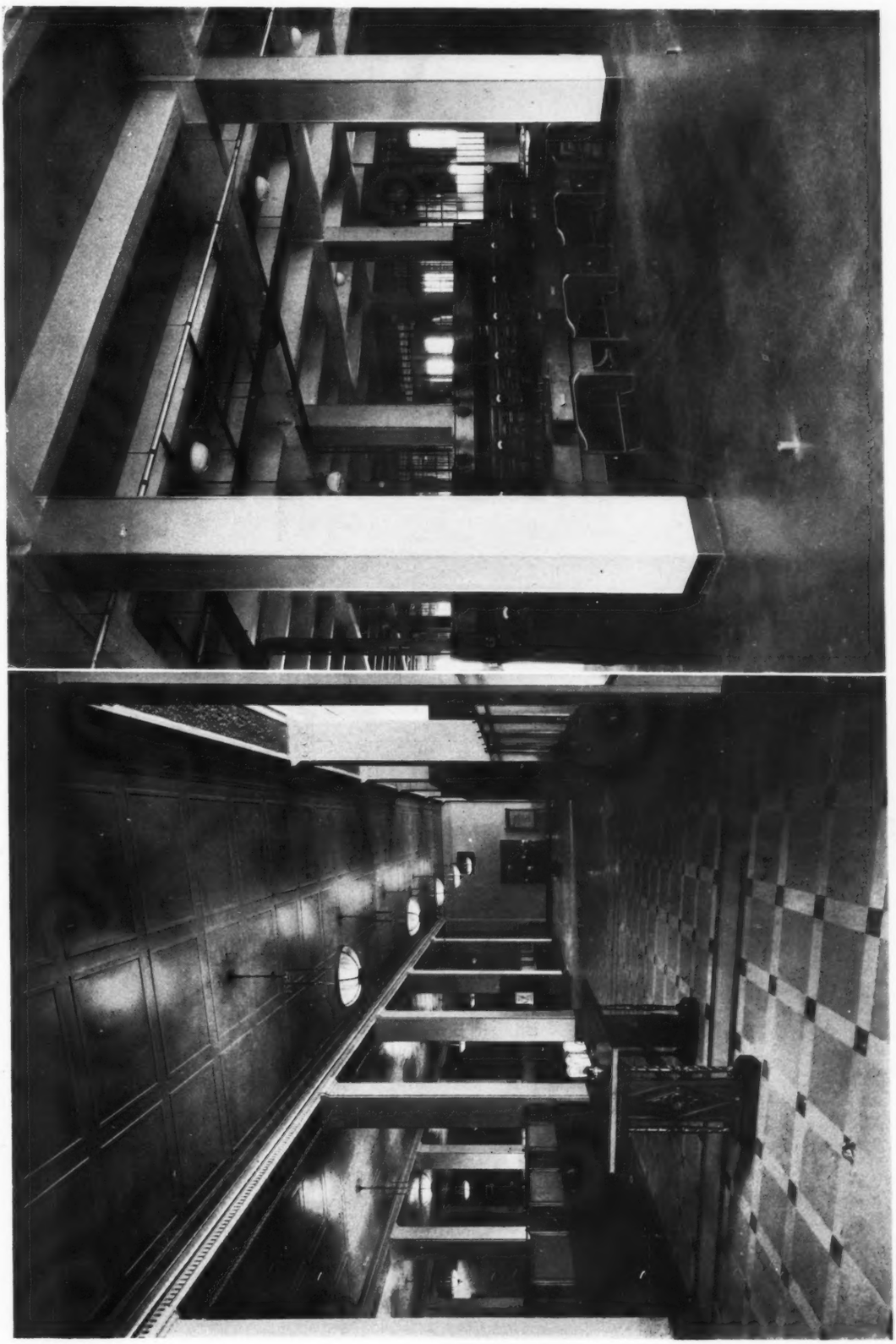


FIRST FLOOR PLAN



TYPICAL FLOOR PLAN

ABOVE, DETAILS OF EXTERIOR. BELOW, FLOOR PLANS. BUSINESS OFFICE, PACIFIC TELEPHONE & TELEGRAPH CO., SAN FRANCISCO. BLISS & FAVILLE, ARCHITECTS



Photographs by Gabriel Moulin.

MAIN LOBBY—TYPICAL UPPER STORY—BUSINESS OFFICE, PACIFIC TELEPHONE & TELEGRAPH CO., SAN FRANCISCO. BLISS & FAVILLE, ARCHITECTS

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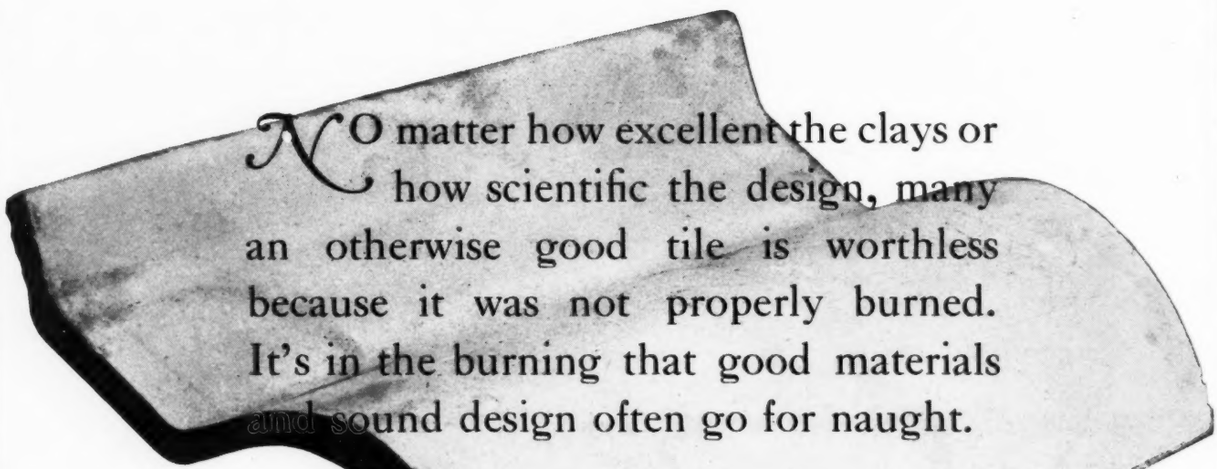
PRELIMINARY STUDY FOR RUSS BUILDING, SAN FRANCISCO. GEORGE W. KELHAM, ARCHITECT

It's Mostly in the Burning



NO matter how excellent the clays or how scientific the design, many an otherwise good tile is worthless because it was not properly burned. It's in the burning that good materials and sound design often go for naught.

Under-burned tile is fragile, porous and totally unfit for use. Be sure the tile you use and approve is well-burned —you can be sure if your tile carries the hall-mark, "Simons."

SIMONS SPANISH TILE

Rendered by R. E. Riggs.

PRELIMINARY STUDY FOR NEW OLYMPIC CLUB BUILDING, SAN FRANCISCO.
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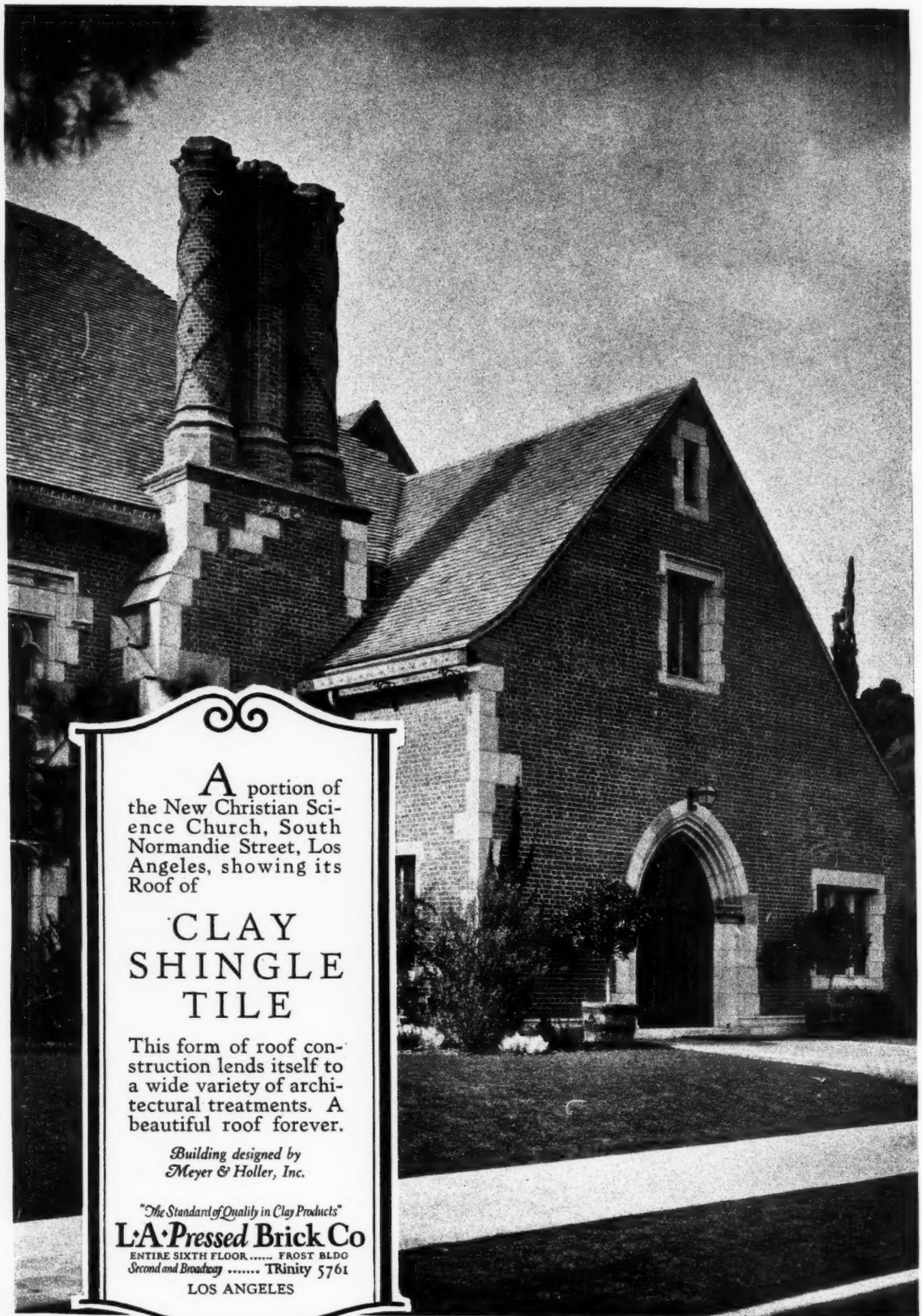

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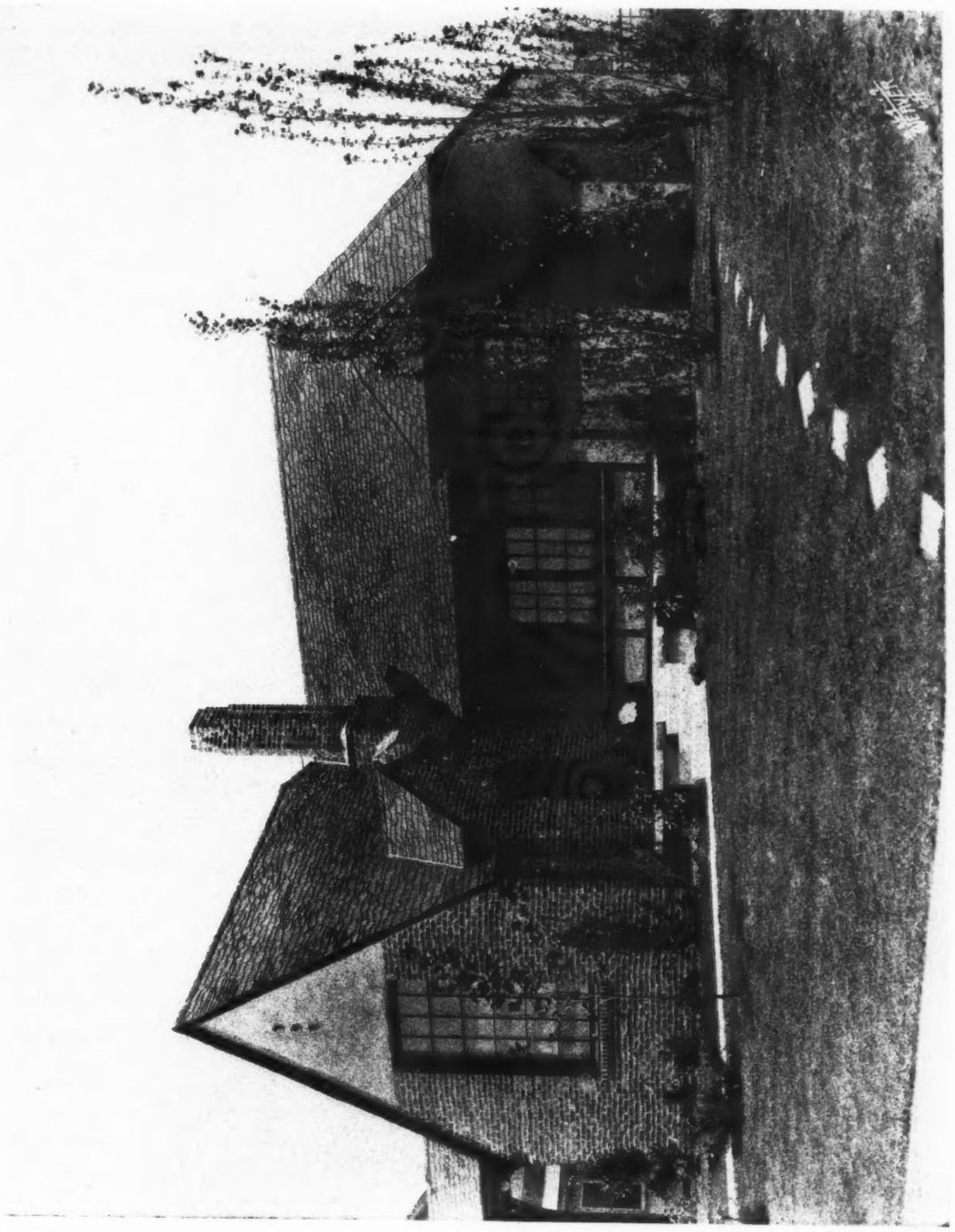

A SOUTHERN CALIFORNIA HOME OF BRICK. RAY J. KIEFFER, LOS ANGELES, ARCHITECT

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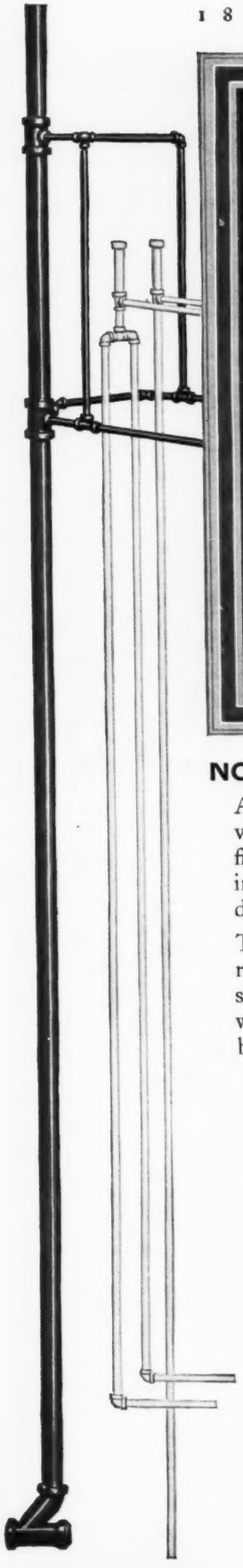

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A little folder describes this combined sink and laundry tub, with the drainboard that also serves as a tray. Write for a copy of booklet A. D. 22, today, or ask any responsible plumbing contractor.

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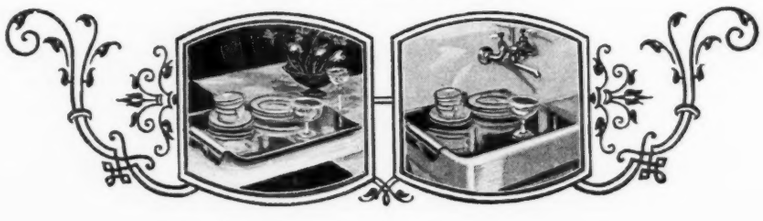


SANTA BARBARA CONSTRUCTION LESSONS

IV

THE CALAMITY AT SANTA BARBARA*

[BY EDWIN BERGSTROM, A. I. A.]

THE stories of the damaged buildings of the Santa Barbara earthquake of 1925 could be written without leaving the swivel chair in Los Angeles. To one who has studied the calamities in San Francisco, Calexico, El Centro, San Bernardino, Hemet, San Jacinto and Inglewood there is little new offered by the ruined streets. The stories of these disasters and the lessons to be learned from them were written for every architect and every layman after each of those calamities. But the story and its lesson is just "news"—it is stale with the telling. The architect and the engineer neglect to put the lessons into practice and the owner seems always willing to "take the chance," because it is cheaper to gamble with the forces of Nature than to spend the money to build right.

Judging by the cross-sections of many of the buildings which are exposed after the earthquake, many times it looks as if the architects, engineers and the builders did not understand, or at least did not put into practice, the simplest fundamental principles of construction and too often it has been perfectly evident that there had been little or no intelligent supervision of the work of construction. When supervision had evidently been given, in many instances it must have been very laxly performed. Incompetent supervision by the architect and engineer has been found by every owner and every contractor; too many of the architects especially do not seem to have that knowledge of practical building which enables them to know what to look for and what to prevent in building construction work. Far too often is it true that the supervision of the architect is a professional pretense.

The calamity of Santa Barbara, like all the others, is an indictment of the business of building; of the architect or engineer who designs the flimsy framework through ignorance, through fear of losing the job if he designs substantially or because he lets the owner, the material man or the contractor inveigle him into cutting the structural framework even to the limits of safety under normal stress; of the contractor who skins and skimps and cuts every corner, and takes out of the building what little of the factor of safety may have been left by the architect and the engineer; of the banker who loans the money intrusted to him on the security of flimsy construction; of the owner who will endanger life and limb of his tenants and those who pass his property in order to save the dollar that may mean safety to all. How many architects and engineers are there who will refuse to go on with the job rather than design a building to its lowest possible terms of safety?

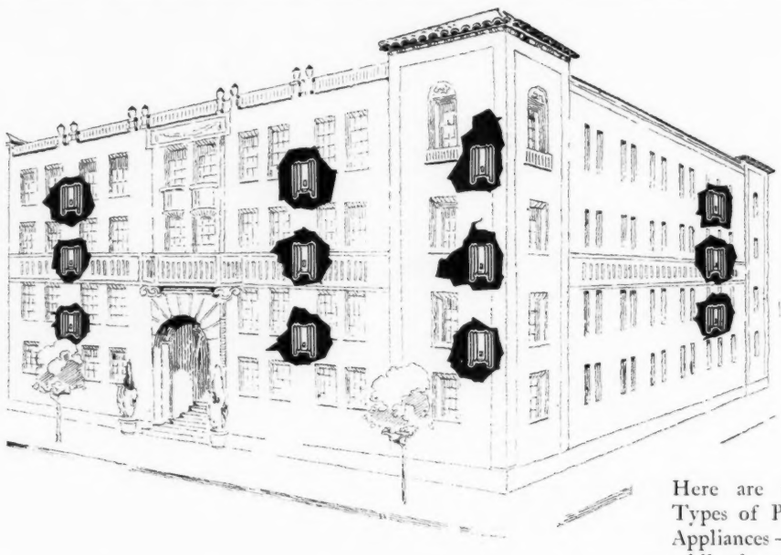
The materials of construction no doubt will be condemned because of this calamity. The failure of the spindling concrete columns and unbraced frames will be laid to the tile filler walls or to the thin brick filler walls or to the thick brick filler walls, as the case may be. It all depends on what you are attempting to prove. Brick, tile, concrete, all jumbled together in the same building; walls two feet thick tied and bonded to walls six inches thick; walls of brick 150 feet long and four stories high held together by sand and wood. Is it any wonder that tile fails, brick fails, concrete fails, steel fails, when the designer or the builder expects concrete or tile or brick to develop tensile strength or to hold together when the adhesive material is but sand that crumbles between your fingers? Materials failed not because of inherent weaknesses, but because of their unintelligent use and combination and poor workmanship in erecting them. The well-designed, honestly built, intelligently superintended, reinforced concrete framework did not fail in Santa Barbara or elsewhere whatever were the materials in the filler walls! The steel frame honestly riveted and tied and supported did not fail. Buildings of tile, fragile as is that material, are standing uninjured. Even the lowly concrete block can show an absolutely uncracked example in the midst of the surrounding failures in Santa Barbara. Do not let anyone persuade you that the failures were due to the materials used. Use any materials you desire, but use them intelligently. Give each of them a chance to develop its natural stress. Do not expect a compressive material to take a tensile strain. Do not blame a tensile material if it fails to come through in times of stress when you have used up all its strength in doing its everyday work. Do not expect a wall of blocks to stand if you do not fasten one block to the other. Do not expect a building to stand unwavering when the ground all about it and under it is weaving and writhing. Do not expect that your spindling, unbraced building will not rack more than the substantial, well-braced structure, even if it be but one story high. Brace and tie the materials of construction together and use as few different kinds of structural materials as you can in any one structure. It is always hard to tie two dissimilar materials together. How much harder it is to tie together a jumble!

The manufacturer of the material usually has done his job well; perhaps the building would have been better if he had continued his responsibility over the use and treatment of his material.

Keep the lines of strain and thrust going straight through your buildings, without offsets, and use beams and girders to carry these strains and thrusts. Do not be misled into using any methods of construction which are not founded on the old fundamental methods of carrying loads. Do not expect that a solid mass of material, however well tied it may be to a thinner mass, will not develop troubles at the juncture any more than you would expect a great mass of building to be tied to a small mass without developing some degree of failure in the smaller mass. The direction of the earthquake movement in Santa Barbara was so nearly parallel with the axes of many of the buildings that the behavior of the various masses of buildings with reference to each other was perhaps a new lesson taught by Santa Barbara. In the damage caused by this earthquake in most of the larger structures can be clearly read the story of what happens when a large mass is in contact with a small mass.

The lesson that has been taught by the earthquake in the elements of design of the framework of the building is thereby brought directly into the larger element of the plan design and the architect should use the utmost discretion in arranging the elements of his plan with respect to its masses and to the crushing that will inevitably take place at the juncture of varying masses.

*Reprinted from Bulletin Allied Architects' Association of Los Angeles.



The Day of Individualized Heat Has Arrived!

In office buildings and apartment houses everywhere architects are specifying individual heating units for each room.

No wonder, for nothing could be more practical. Heat where and when you want it! That's the cry of owners and tenants.

The day of the expensive central heating plant has passed in California. Better results and greater economy can be gained through Pacific's proved method of individualized heat.

October was the biggest month in the history of the Pacific Gas Radiator Company—3000 installations in one month! This is proof that Pacific's policy and products are right.

Pacific Heating Engineers will give you complete information on Pacific Gas Steam Radiators or any other units of the complete Pacific line for inclusion in your next plans. Write, or telephone BEacon 2190.

Here are the Five Leading Types of Pacific Gas Heating Appliances — they ventilate while they heat.

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An exclusive air circulation system — develops greater heat at a 25% saving in gas. Sturdier construction insures longer life.

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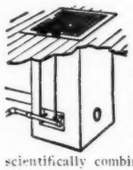

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Pacific Basement Furnaces

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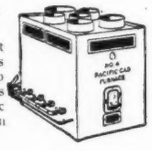

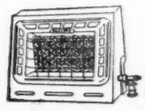

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MODERN HEATING AND VENTILATING PROBLEMS
III
PRACTICAL METHODS OF SPACE HEATING

[BY THOMAS B. HUNTER]
Hunter & Hudson, Consulting Engineers

AUTHOR'S NOTE.—This is the third of a series of informative articles regarding the selection and installation of modern types of cooking, water-heating and space-heating equipment.

PROPER ventilation has been emphasized in every article of this series and it must be said again that this occupies a place of primary importance in any discussion of gas-fired space heating equipment. Lest the reader get the impression that undue stress is being placed on ventilation in connection with our heating problems, the following simple facts may well be stated:

The reason we should use only those types of appliances which discharge their products of combustion to the outside through adequate chimneys or vents is that air is not a simple substance but consists of a mechanical mixture of nitrogen and oxygen by volume.

Oxygen, as we all know, is one of the most important elements of the atmosphere. It is in action in the chemical process of combustion and also in the physiological respiration of human beings. It supports life. Carbon dioxide, nitrogen, water vapor and small amounts of other gases are nearly always found when fuels are burned, whether they be gas, coal, wood or oil. Carbon monoxide, a deadly gas, is also formed if the combustion is incomplete. With gas burning appliances one of the principal reasons for venting is to carry off the water vapor which makes the air oppressive and causes "sweating" of walls, windows, etc., if not removed. The amount of this water vapor formed on combustion of oil gas is between 5 and 6 gallons to each 1000 cu. ft. of gas burned. It is therefore not only necessary but vital to discharge these products through a chimney so that they will not contaminate the air which the occupants of a room must breathe. An interesting discussion of the necessity of venting gas burning appliances will be found in the California State Board of Health weekly bulletin for November 14, 1925.

In space heating with modern appliances to utilize gas as a fuel, there are so many methods and appliances available that a detailed discussion of selection and installation might well fill a volume or two instead of the limited space of this brief article.

Briefly, the multitude of appliances available to the engineer or architect, where gas is the chosen fuel, may be divided into the following groups:

1. Warm-air furnaces.
2. Steam and hot water boilers.
3. Miscellaneous small appliances.
   (a) Floor furnaces.
   (b) Radiant fires (vented).
   (c) Radiators (vented).

Taking the first group, it has been definitely established that the warm-air furnace which burns gas as a fuel is an absolutely safe, convenient, sanitary and quick-heating type of equipment. It supplies fresh, pure, warm air to any or all rooms without the air coming in contact with gas flame or fumes. The electric control lights the furnace and regulates it for low, medium or full heat.

The proper installation of a furnace is even more important than the selection of a good piece of equipment.

An official standard code of general installation specifications for gas-fired warm-air furnaces has been compiled by the Gas Heating Engineering Committee of the Gas Appliance Society of California and this code gives the details regarding proper installation. It should be in the hands of every person concerned with design or installation of these systems. Since it is available to every one interested in the subject, the writer does not feel that it is necessary to discuss at length such details in this article. But it should be stated that a good warm-air furnace installation must contain a furnace of adequate size, as centrally located as possible, a carefully designed and constructed system of warm air distributing ducts and registers, and a cold air intake connecting the house to the furnace. Insulation of hot air ducts, using at least ¼ inch asbestos air-cel, is essential, yet it is often neglected. Dampers in the various air lines are desirable.

A properly designed chimney is essential. The vent connection from the furnace to the chimney should be as short as possible and provided with a drip-T. It should also be provided with a draft hood unless the drip-T serves as one. Copper pipe is recommended for all vent connections. Should there be no chimney to connect to, vent must not simply terminate outside of house, but a good flue should be built on outside, and extended well above roof of house to insure a good draught; and provided with an A-top or equal to prevent down-draught. It is highly important to have a good vertical flue to connect to and the use of copper pipe, or equal, for the vent connection, adds only a few dollars to the cost but many years to the life of the job.

Rate Gas Con. per Hr. (cu. ft.)	50	100	150		
Minimum Size Vent Connection	3 in.	4 in.	4 or 5 in.		
Rate Gas Con. per Hr. (cu. ft.)	200	300	400	600	
Minimum Size Vent Connection	5 in.	6 in.	7 in.	8 in.	

Advantages of the warm air system are: low first cost of installation, heating combined with ventilation, adaptability to light or intermittent service and to sudden changes in outdoor temperature, low cost of operation.

Steam and hot water systems are available in a multitude of types and sizes to meet every requirement. That they are among the most satisfactory methods of heating known today, thousands of these systems in California homes and offices will testify. Much of their popularity is due to the following advantages:

Most durable and long-lived system of heating with lowest depreciation and maintenance cost; steam, vapor and hot water systems are not affected in circulation and transference of heat by wind pressure, radiators may be designed to harmonize with the architectural rendering or color treatment of any room, or may be set behind ornamental grilles. Any of these systems easily lend themselves to automatic control; radiators in rooms not in use may be turned off. With gas steam or hot water systems, there is neither noise, smoke, dust nor fire hazard.

So far we have touched upon only the larger installations for heating an entire home or building and we have not mentioned the infinite number of smaller appliances such as floor furnaces, vented radiant fires and vented gas radiators which occupy no small place in any consideration of this problem, especially in California where the heat requirements of the small home, office or apartment are not so much for a great amount of heat as for individual heat which can be instantaneously controlled to

[Concluded on page 72]

Kitchen and Serving Room Equipment for Employees' Cafeteria, Pacific Telephone and Telegraph Company Building

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VERTICAL TRANSPORTATION IN TELEPHONE BUILDING

[BY E. P. FORD]
Otis Elevator Company

VERTICAL TRANSPORTATION in the new Coast Division Building of the Telephone Company is furnished by nine Otis signal control elevators. These elevators are of the multivoltage, micro drive, gearless traction type. They are located in two banks, one on either side of the main lobby. One bank has four elevators traveling to the twenty-sixth floor and one to the twenty-seventh floor. The other bank has four elevators traveling to the twenty-second floor with provision for a fifth elevator to be installed when necessitated by increased tenancy of the building. The speed of the elevators is 700 feet per minute. This increase in speed has been made practicable through the use of signal control. The following paragraphs briefly describe the system:

When the passengers enter the car and call their floors, the operator presses corresponding buttons on a bronze panel which contains two rows of buttons indicating the stops in the up and down directions. As these buttons are pressed they record the stops on the floor selector which is a part of the controller. The controller will then cause the car to stop at the floors recorded, when the car is traveling in the proper direction.

At the starting signal, the operator moves a lever which causes the pneumatic door operators to close both the hatchway and car doors. The action of the elevator is now automatic until the doors have again been opened. As the doors close and lock, the car starts, and accelerates rapidly to full speed. When the car is within a few feet of the nearest landing for which a call has been recorded, the main motor slows down and the micro drive levels the car with the floor, and as the car stops, the doors open. After the operator has again moved his lever the action is repeated, continuing in the same manner until the end of the car's travel. If, however, a waiting passenger has pressed a button in a hall, that stop is also recorded on the floor selector, and the first car approaching in the proper direction will stop.

When the car reaches the end of its trip the mechanism controlling the direction of travel is automatically reversed and the elevator is ready for the return trip. The operator may also mechanically reverse the direction of travel at any point, if he falls behind schedule.

Pressing the proper buttons for passengers announcing their floors and moving the lever which controls the closing of the doors are the only duties of the operator which concern the operation of the elevator. The multivoltage control insures uniform acceleration and retardation, which are adjusted for the greatest speed which will not be disquieting for the passengers. The micro drive levels the car with the floor and holds the level while the car is at the landing.

During loading or unloading, the hoist ropes stretch or contract slightly, but if the platform moves more than a quarter of an inch, the micro drive returns it to the floor. The signal control stops the car at the proper floor and opens the doors, whether the call has been recorded from within or without the car. When the stop has been recorded from the hall, the floor selector affected is that of the first car approaching in the proper direction. This car will automatically stop unless it has a capacity load, and the operator presses a special button which will allow his car to continue its travel and at the same time transfer the signal to the floor selector of the next following car.

The added service afforded by the signal control elevator is apparent. The operator is relieved of remembering floors, stopping his car and opening doors. He can therefore use his time to speed up traffic to and from the car. Automatic stopping permits a greater rated speed. Automatic leveling of the car with the floor eliminates the time lost in making false stops. Automatic opening of the doors reduces the time for this operation to about half that required for manual operation. Each of these operations insures a slight saving of time, and repetition at each landing makes a saving of many seconds in the round-trip time, and a shorter interval between cars.

Multivoltage control automatically increases or decreases the voltage which various conditions require, thus reducing power consumption. Smooth operation and the elimination of false starts and stops reduce wear and tear. The design and rugged construction of the signal control reduce maintenance.

RARE ARCHITECTURAL BOOKS

A COLLECTION of two hundred and fifty rare foreign architectural books has just been received from Europe by The Rapid Blue Print Company of Los Angeles. The books will be on display and for sale at their establishment during the months of December and January. The collection, mostly of out-of-print books, contains many titles very difficult to obtain and some exceedingly rare first edition copies, such as "Le Grand Durand," Letarouilly's "Edifice de Rome Modern," "Le Vatican Et La Basilique," etc. Other interesting titles are "Baukunst Spanien," by Junghaendel, "Prisse d'Avennes—L'Art Arabe" and "Ysendyk Documents Classes."

This is the first real opportunity the architects of California have had to examine at first hand such a collection, and undoubtedly the exhibition will be well attended.

In the short period of eighteen months, this concern has acquired a library of over five hundred titles. With the 250 in the exhibit, these make the finest architectural library west of Chicago.

* * *

Arthur W. Angel, Architect, Los Angeles, announces the removal of his office to 3400 East Fifth Street.

VAULTS IN NEW BUILDINGS

AMONG the many vaults to be installed in the new Coast Division Building of the Pacific Telephone & Telegraph Company, by the Hermann Safe Co. of San Francisco, the largest on the 19th floor for use of the treasury department is 18 feet by 25 feet. It is lined with ½-inch steel lining, the doorways are of the latest design. This vault contains 60 steel lockers.

The Hermann Safe Co. also manufactured and installed all lockers, etc., for the P. G. & E. Building, San Francisco. The Hermann Company operates the only safe and vault factory on the Pacific Coast. They have installed vault equipment in more than 500 banks and many of the large office buildings and pride themselves on close cooperation with architects.

* * *

According to statistics compiled by G. B. Schneider, manager of the Washington Iron Works, pioneer plumbing fixture manufacturers, there are at least 50% more bathrooms in the houses built in the last five years than there were in houses built during a similar period a decade or so ago.

BATCHELDER TILES

BATCHELDER Tiles are primarily artistic in their conception. Their rich, soft tones and distinctive designs add a subtle variation of color and texture to the Italian type of mantel shown above.

BATCHELDER-WILSON COMPANY

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SOLVING THE TELEPHONE INSTALLATION PROBLEM

[BY C. W. BURKETT, C. E.]
Pacific Telephone and Telegraph Co.

IN the construction of new buildings the installation of a telephone system is just as important as the plumbing installation. As a rule, telephone companies do not install telephone cable conduits in buildings. The builder himself must arrange for all such work that is to be done, as the telephone companies will only install such materials as they can remove and salvage in case the building is torn down.

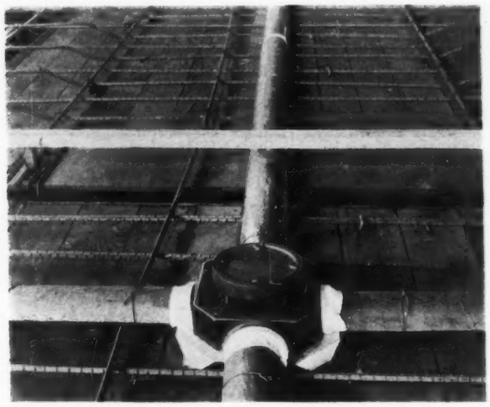
Sometimes after a building is nearly completed considerable work has to be torn out to provide for an adequate telephone system. Conduits are built that are not sufficiently large, and another mistake often made is when the telephone companies find they are expected to pull cable around several corners. This would be possible with wire, but not with cable.

In line with this general practice the telephone engineers have designed a special underfloor duct system for the Telephone Building at 140 New Montgomery street, San Francisco.

In taking up this problem they found that over 1,200 people were to be housed initially, increasing to 2,000 people within eight years. It was estimated that initially it would be necessary to care for some 12,000 to 13,000 originating telephone calls daily. In addition to wires for telephone service, wires for messenger and stenographer signals must be installed. The job was to give all of this service without having any loose or visible wires or cables in the offices or in the hallways; that is, to have ample telephone and signal service wires available everywhere—all hidden from view and readily installed and removed.

To accomplish this, channels or underfloor ducts were constructed as part of the floor slab and so spaced as to be available at any point, not only for the initial occupancy, but at any time during the life of the building.

Underfloor duct is usually placed in the fill, but in this case no fill was used, so that duct was installed in the concrete slab. The engineers determined the maximum telephone service required by floor areas and then proceeded to locate the duct runs so as to be available where required.



FLOOR JUNCTION BOX CONNECTING BRANCH DUCTS, COAST DIVISION BLDG., P. T. & T. CO., SAN FRANCISCO

TYPICAL INSTALLATION, COAST DIVISION BLDG., P. T. & T. CO., SAN FRANCISCO

Because of the number of wires to be provided for and the thinness of the floor slab it was necessary to have made a special semielliptical duct having a height of two inches. The finished slab is 5 inches thick with 1 inch of concrete below and 2 inches above the duct.

The ducts radiate from wall distribution boxes located at convenient points just above the baseboard, and at intervals in the duct run permanent floor outlets with removable covers flush with the finished floor are provided. These outlets also serve as junction boxes where necessary.

Holes are drilled in the floor over the duct line where service is desired and fittings installed through which the wires and cables are pulled to the desk or table where the telephone or signal button is located.

* * *

A NEW "UNDERGROUND SKYSCRAPER"

Negotiations have been completed for what is to be the world's largest office building on the entire block, bounded by Lexington Avenue and Depew Place, 43rd and 44th Streets, New York. Seven complete stories of the building will be entirely underground; thus establishing a new record for an "underground skyscraper." The underground building will stand in a gigantic cavern torn from the solid granite of Manhattan Island in what will be one of the world's most notable engineering feats.

SAN FRANCISCO HEADQUARTERS, THE EGYPTIAN LACQUER MFG. CO. MILLER & PFLUEGER, ARCHITECTS
G. P. W. JENSEN, CONTRACTOR AND BUILDER. A. QUANDT & SONS, PAINTERS AND DECORATORS

BUILT FOR SERVICE, our new general office and warehouse offers a practical demonstration of the uses to which Egyptian Lacquers may be put. We cordially invite you to visit and inspect this building. For nearly fifty years we have been supplying fine lacquers for industrial uses. The value, utility, ease and speed of application, and beauty of Egyptian Lacquer were responsible for its extensive use in the new Coast Division Building of the Pacific Telephone and Telegraph Co., San Francisco, and elsewhere. Our service bureau, consisting of highly trained men, is at your disposal.

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LACQUER—AND THE NEW TELEPHONE BUILDING

[BY GEORGE E. COVELL]
A. Quandt & Sons

ONE of the important problems which the architects of the new Coast Division Building of the Pacific Telephone & Telegraph Co. were called upon to solve was that of the decoration of the interior. Time was an essential factor, yet the finishing of the miles of steel trim used in the great building, including metal windows, door casing and base and hundreds of walnut and oak hardwood doors with holly and ebony inlay must be richly decorative, easily cleaned and permanent.

Since much wood, iron and metal work exclusive of that used in buildings had for years been finished with lacquer and as several of the newly constructed buildings in Eastern cities were reported to be finished with this old material used in this new way, a searching investigation of the possibilities of lacquer was decided upon.

Nitro-cellulose lacquers, a by-product of gun cotton, reduced with amylacetate and fortified by the addition of resinous varnish gums were new so far as the painting contractor was concerned. Samples of all the different manufactured lacquers were obtained and exhaustive tests were begun, pending the time when actual application might be begun. Many of these tests required weeks of careful observation. Pliable metal, as well as the actual 18-gauge molded steel casings to be used in the Telephone Building were coated with many different metal primers, fillers and lacquer enamels and when dry and thoroughly seasoned, put to the most severe bending, hammering and abrasion tests as well as to exposure tests from the elements. These tests were much more severe than would ordinarily be possible on the usual accepted varnish or enameled finish surfaces.

But even with the information obtained by these exhaustive tests, our organization was not completely satisfied, so to check up eastern reports and obtain such facts as were available as to the whole problem of the application of lacquer, Mr. Fred Quandt of our firm went East and made a first-hand study. He discovered that at that time, March, 1925, no building of any consequence in the United States had been completely finished with nitro-cellulose lacquer and the report as handed in from his observations of eastern conditions was not enthusiastic.

However, our own tests and experiments and the methods we had developed proved so convincing and encouraging to ourselves as well as to the architects and the engineer of the Telephone Company that it was decided that lacquer under the methods of application we devised was the only material that could be used successfully under the working conditions in existence: dampness, wind and dust, limited time for drying and for completion of the building. The strict time schedule adopted was adhered to in every way, a result that would not have been possible except for lacquer, because lacquer thinned to proper consistency, rightly applied with a nicely adjusted spray outfit or air brush upon a firm, hard foundation, sets immediately. Work may be handled within 20 minutes after its application. Volatile thinners used to reduce lacquers, amylacetate or methyl acetate, commonly known to the layman as "banana liquid," evaporates instantly when exposed to the air.

It was discovered in the course of our researches into the whole fascinating subject that lacquers are of many makes and qualities. Like the Irishman's whisky, all are good but some are better than others. The advantages of a quality lacquer are mainly found in its quick setting and drying. It is possible to apply two or three coats in a day when necessary. Its hard drying porcelain-like finish presents a full, round lustrous coating of great beauty that will stand severe abrasions, and constant washing with strong alkaline solutions such as janitors usually employ. It may be rubbed to a handsome dull finish or polished to a mirror-like surface. Lacquer enamels are available in practically all colors.

After completing this large undertaking with this material, it is our belief that lacquer finish has come to stay and while it is true that early failures were reported in the automobile industry, most of these were due to ignorance regarding the character of the material used or carelessness in preparation and faulty workmanship in application. Just in the last six months, great improvements have been made by lacquer manufacturers in the chemical composition of lacquers. Naturally we feel a certain pride in having had a part, with the architects, engineers and the Telephone Company in achieving results so gratifying, thus blazing a new trail in interior decorative treatment which will be followed by much more widespread use of lacquer for similar purposes in the future.

Lest one get the impression from this discussion of lacquer that it is the only material used in the interior of the Telephone Building, it should be stated that our organization was also called upon to execute a great variety of other work, using the more formal and generally known methods of decoration throughout this structure. Bold and daring color combinations in the main entrance lobby, extremely decorative use of paint in the highly ornamental cafeteria and decoration of the auditorium and directors' rooms have all been highly praised and offer abundant proof that we do not believe lacquer, useful and beautiful as it is for the purposes for which it was here used, will supplant all materials for all purposes. In decorating of all buildings, paint has its place and so has varnish and enamel and all other materials. But that lacquer will come to be more and more in demand in meeting certain requirements may be confidently predicted.

* * *

Baranger Studios, Inc., announce their establishment in a new home, Mission at Orange Avenue, Pasadena, California.

* * *

Suggestions for hotel lighting are contained in a new booklet published by the National Lamp Works of the General Electric Co., Nela Park, Cleveland, Ohio.

* * *

A comprehensive booklet on "Water Softening" has been published by the National Lime Association, 918 G Street N. W., Washington, D. C.

* * *

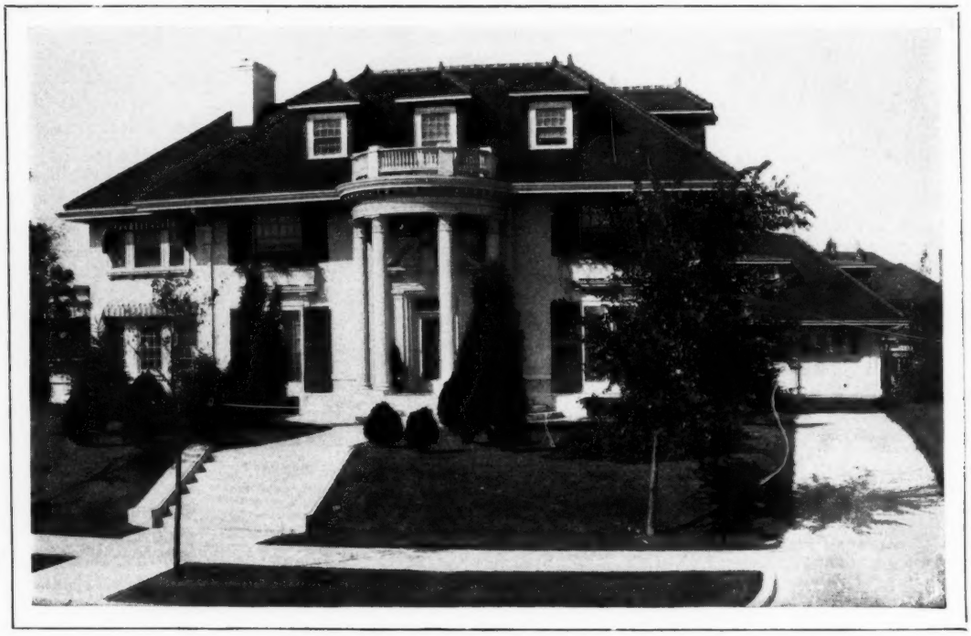
"The Low Cost of Dignity and Beauty" is the title of a booklet just published by the Plate Glass Manufacturers of America. An added feature of interest to all architects is a glossary of terms used in specifications for plate glass.

* * *

California Common Brick Manufacturers Association announces the removal of its offices from 811 Sharon Building to 932 Monadnock Building, San Francisco. Mr. R. W. Tempest, consulting engineer, remains in charge.

* * *

R. R. Irvine, Architect, San Francisco, has moved to larger quarters at 747 New Call Building.



Residence of Fletcher Cowherd, Jr., 6140 Morningside Drive, Kansas City, Mo.; Selby H. Kurfiss, Architect, Kansas City; Kohler Plumbing Fixtures furnished by U. S. Water & Steam Supply Co., Jobbers, Kansas City; installed by C. W. Herold Plumbing & Heating Co., Plumbers, Kansas City

THE Fletcher Cowherd Co., Kansas City, Mo., builds fine homes, equipping them, almost always, with Kohler Plumbing Fixtures.

In building for himself, the vice-president of this company, Fletcher Cowherd, Jr., made the same selection. His home on Morningside Drive has Kohler Ware in its five bathrooms and in its kitchen.

This beautiful ware has a special distinction, conferred by grace and dignity of design and by rare quality of enamel—always identified by the name "Kohler" faintly fused in the immaculately white surface. Yet it costs no more than any comparable ware.

It is a sound choice, this Kohler Ware, alike for the man who builds to keep and for him who builds to sell. There is genuine satisfaction in specifying it.

A Notable Community

The modern conception of the "city plan" is shaping the growth—in orderly beauty and civic purpose—of Kohler Village, where Kohler plumbing fixtures and private electric plants are made

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KOHLER OF KOHLER
Plumbing Fixtures

THE TERRA-COTTA IN THE NEW TELEPHONE BUILDING

[BY RICHARD PROSSER]

IN designing the Telephone Building the architects, Messrs. Miller, Pflueger & Cantin, were faced with unusual problems, the solution of many of which was found in terra-cotta. It is not enough to say that the completed structure is a great architectural achievement—it is acknowledged to be one of America's most beautiful buildings.

The structural problems presented uncommon features, in that no piling was used for the foundation, the structure being carried on a continuous mat of reinforced concrete. Every pound of structural weight that could be saved made the foundation problem that much easier to meet. This is where the light weight of architectural terra-cotta became an important factor. Through its use, a considerable saving in foundation and in structural steel was effected. If the building had been faced with stone instead of terra-cotta, the weight of the facing would have been about double.

The economy of terra-cotta as a building material is admirably illustrated in the rear elevation of the Telephone Building above the twenty-second floor. The structure is L shaped, but an addition is contemplated which will make it U shaped. Accordingly, the light court walls are faced with an enamel brick, which blends perfectly with the warm gray tones of the matt enamel terra-cotta with which all other exterior walls of the building are clothed. However, the brick extends only to the twenty-second story, above which the architects repeated the design of the other facades. This could be done economically because the clay could be pressed from the same moulds for all facades.

To the layman perhaps the most obvious success of the architects was the solution of their problem in terms of beauty. What is not so obvious to the lay eye is that terra-cotta was the medium used to interpret the exquisite design, for the man in the street firmly believes that the building is faced with granite. Even poets fall into this error, as witness Thomas Watt Tyler, who published a poem in the Call recently entitled: "A Prayer in Stone and Steel." Mr. Tyler pays tribute to the architect in this fashion:

> "For he who dreamed this dream has heard the song
> That God was singing when God fashioned life—
> The song the stars still sing the years along,
> The song the lightning sings in thunder-strife.
> Taking some Stone and Steel and Glass and Wood
> He fashioned beauty: And his work is good."

The poet, however, is hardly to be blamed for mistaking this terra-cotta for stone. As the years go by this stone-like quality will be still more pronounced as "time and storm set their wild signatures upon it."

The terra-cotta of the Telephone Building was all manufactured by Gladding, McBean & Company at their Lincoln plant. The enamel brick for the light court walls was made by the Los Angeles Pressed Brick Company.

CALIFORNIA PRODUCTS IN THE TELEPHONE BUILDING

[BY JOHN K. STEELE]

WHETHER it was a policy of the owners, the builder, the architects, or a combination of all three, a marked disposition to utilize Pacific Coast products and Pacific Coast sub-contractors was evident from the inception to the completion of the Coast Division Building of the Pacific Telephone & Telegraph Co., San Francisco. The tremendous quantities of materials and appliances available were evidence, too, of the increasing industrial facilities of this section.

One of the largest of the undertakings was the supplying of the sheet metal work, hollow metal, fire doors, elevator fronts and cabs, all of which were fabricated and installed by the Forderer Cornice Works of San Francisco and Los Angeles.

It is said that the hollow metal trim supplied for base and picture moulding by this organization was in the aggregate several miles in length.

The 221 hollow metal elevator fronts as well as the elevator cabs themselves were built and installed by the same company. The advantages of this type of elevator door are said to be their lightness, making them much easier on the hangers, on the opening device or on the operator. They are also said to be faster, an important factor where high speed is an essential as in the vertical transportation installation in this building, they make air control of their operation possible, they possess added safety factors and being finished in baked enamel, effect a saving in maintenance expense.

In this connection, it is interesting to note that the modern tendency in elevator door construction seems to be toward solid doors instead of doors of glass. This permits the operator to devote undivided attention to the operation of the car without being distracted by happenings or visible objects outside the door of each floor passed, and helps therefore to speed up vertical traffic. But still more important is the fact that it eliminates the often expensive finishing of the entire interior of the elevator shaft and puts an end to the constant maintenance expense of keeping every inch of visible shaft clean.

The Forderer Company responsible for these large metal work installations in the Telephone Building also completed the installation in the Pacific Gas & Electric Co. Building, San Francisco, of 1351 Campbell windows, Nonpareil skylights, Met-Elec base, baked enamel finish and hollow metal doors and trim throughout the structure.

* * *

FELCHLIN COMPANY CHANGES

The firm name of the R. F. Felchlin Company, Architects, Engineers and Managers of Construction, has been changed to Felchlin, Shaw & Franklin. Offices are now maintained in the Commercial Exchange Building, Los Angeles, as well as in the T. W. Patterson Building, Fresno, California.

* * *

DRAFTSMEN FOR NAVAL CONSTRUCTION

The United States Civil Service Commission states that a number of naval establishments are in need of draftsmen in connection with naval construction. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C.

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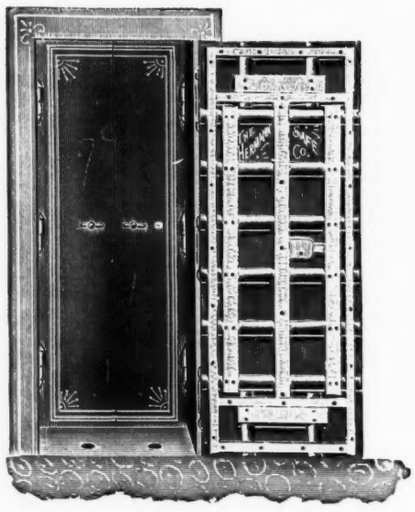

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CONSTRUCTION OF EL MIRASOL BUNGALOWS

BY E. KEITH LOCKARD

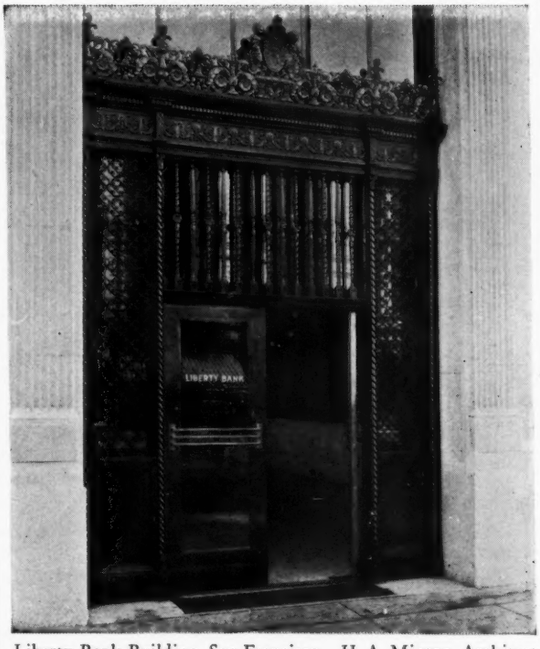
The El Mirasol Bungalows are one-story buildings of a rigid wood frame type with concrete foundation upon which a redwood plate or mudsill is bolted. The floor joists rest directly on this plate and on intermediate girders supported by underpins on concrete piers.

The exterior walls are built of 2x4-inch studding 16 inches on center, extending in one length from the mudsill to the top of the parapet wall, ribbon boards being cut into these studs to carry the wooden ceiling joists and roof framing. The exterior is sheathed solid with ⅞-inch Oregon Pine sheathing covered with water-proofed paper and over this is securely nailed heavy galvanized iron chicken wire and finished with cement plaster. The rough flooring is ⅞-inch and the finished floors are the same in thickness.

Interior studding is 2x4x16-inch on center and all stud walls are braced and blocks used for fire stops. Partitions between rooms are sound-proof with a layer of Celotex. All inside partitions and ceilings are lathed with wood lath and plastered with hard wall plaster. Ceiling joists are wood and the roof is framed with wood rafters, the loads from which are carried directly on partitions and the roof is sheathed solid with ⅞-inch wood sheathing and covered with built-up asbestos roofing. Over this roof is constructed a board covering for insulating purposes, making an additional air space between the roofing and this boarding. Special care is taken throughout in regard to nailing, spiking and tying all structural members in the best workmanlike manner. This I believe to be the reason for the notable way that these buildings have withstood the recent Santa Barbara disaster.

* * *

The death of Mr. Virgil G. Marani, chief engineer of The Gypsum Industries, Chicago, occurred November 2.



Liberty Bank Building, San Francisco. H. A. Minton, Architect
Ornamental Iron Entrance and Bronze Teller Cages
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THE TELEPHONE BUILDING EMPLOYEES' CAFETERIA

[BY M. M. NERVA]

FORTUNATE, indeed, are the employees in the new Coast Division Building of the Telephone Company, for a model cafeteria of great convenience and beauty has been provided for them on the twenty-second floor and it is one of the most attractive features of a building replete with features designed to make for the comfort of its occupants.

A rare combination of beauty and utility is achieved in the cafeteria. Situated so high above the city's traffic, the view is delightful. Every modern convenience for good cookery and for expeditious serving of a large number of persons in a short time is provided. The designers have succeeded to a remarkable degree in obtaining a compact arrangement for the preparation and serving of food and so concealing and subordinating it to the more attractive features that once one has passed to a table, the serving table and all the machinery of food preparation is lost to view.

The ceiling and wall surfaces of the room are finished in transparent glazes over a plain painted ground. But the hand-made glazed tile wainscoting installed by Malott & Peterson of San Francisco makes the room a riot of color. The rich warm glazed tile is profusely and happily used throughout the dining hall, while the inside of the terra cotta piers dividing the windows from the exterior have been beautifully decorated with a harmonious vase and foliated design somewhat on the style of the early Italian Renaissance. Soft greens, blues and warm bright yellow and orange tones are used in the vivid decoration of these piers.

Passing from the beautiful to the practical, which in this case (thanks to the ingenuity of the architects) is scarcely a step, one finds an extremely complete and cleanly kitchen with the most modern equipment possible. The contract for building the serving tables, plate racks, cooks' and bakers' tables has been executed with great care by the Montague Stove and Range Company. Their experts have followed a method of construction which precludes dirt, water or moisture getting through cracks or joints at any point. The installation is sanitary.

Two serving tables, each about 22 feet in length, have been installed. As an integral part of their equipment, they are supplied with the usual refrigerators, warming table, shelving, garbage receptacles and built-in trays for coffee urn and similar utensils.

For all table tops and doors to cabinets, refrigerators and garbage receptacles, monel metal was used.

Tile walls installed by Malott & Peterson in the kitchen as in the cafeteria proper, butt tightly on top of a right-angle bend of monel metal, which drops down from this point to the level of the table top, forming an apron of solid sheet without joint or crack. At the outer edge of the table top this metal has again been bent at right angles. Such a type of construction allows all water or other liquid to drain off directly to the floor.

No raw edges of metal are left. There are no ordinary joints throughout the installation. Where a joint has been necessary around doors or at other points, a clean weld has been made and the metal polished to an even surface.

Ports for accommodation of trays and silver are fitted with shelves of the same metal and doors built into the tile wall. In every case extreme care has been taken to close all joints so that no moisture can seep back of or under trays.

The practical convenience and beauty of this cafeteria, with its kitchen a model of cleanliness and practical utility and its serving room and dining-room a colorful spot of great beauty, should pay dividends to the Telephone Company in more contented employees.

A CORNER OF THE EMPLOYEES' CAFETERIA, COAST DIVISION BLDG., P. T. & T. CO., SAN FRANCISCO

* * *

LE BRUN SCHOLARSHIP

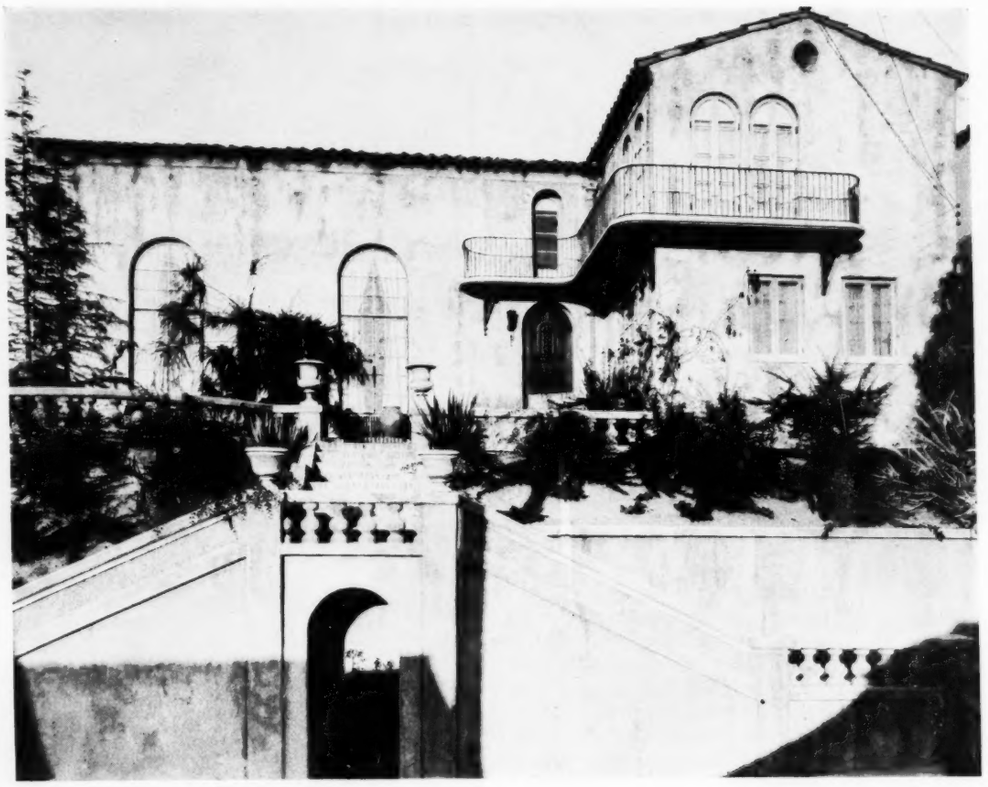
THE executive committee of the New York Chapter of the A. I. A., as trustees of the traveling scholarship founded by Pierre L. Le Brun, announces a competition for the selection of a beneficiary. The program will be issued about December 30, 1925, calling for drawings to be delivered about March 2, 1926.

All those wishing to enter the competition should arrange at once for nomination by a member of the A. I. A. Nomination blanks can be had of the secretary of any chapter, or of the Le Brun Scholarship Committee. Nominations should be sent so as to be received before January 1, 1926, by Le Brun Scholarship Committee, Room 1618, 19 West 44th Street, New York.

* * *

OIL BURNER BULLETIN

A 28-page bulletin, thoroughly covering the methods and procedure in oil burning testing wherever the burners are fired under boilers or in warm air heating plants, has just been issued by the American Oil Burner Association, 350 Madison Avenue, New York City.



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A BIT OF EGYPT BROUGHT TO CALIFORNIA

[BY CLEMENT WOODWARD]

A DEFINITE answer to the question: "Can a modern warehouse be a work of art" is found in the completion of the new San Francisco offices and headquarters of the Egyptian Lacquer Mfg. Co. at 1050 Howard Street, San Francisco. Miller & Pflueger were the architects, G. P. W. Jensen the builder and great praise has been bestowed for the successful manner in which this bit of the architectural glory that was Egypt's has been brought to a commercial neighborhood and given it a note of beauty and distinction.

The executives of the company have extended a cordial invitation to the architectural profession and to all others interested in building and decorating to visit their establishment and those who have accepted the invitation have found much worth while. For while the structure itself is interesting for its architectural treatment and the happy combination of the beautiful and the practical, the growing importance of the value of lacquer and lacquer enamel and its tremendous possibilities makes any study of the subject not only of practical help but almost necessary, if one is to keep up with the procession.

The Egyptian Lacquer Mfg. Co. is more than 50 years old and has been supplying its wares from offices in New York, Chicago, San Francisco and Los Angeles for many years, but it was not until the recent extensive use of Egyptian lacquer on hollow metal trim, windows and door frames and on hardwood doors and elsewhere in the Coast Division Building of the Pacific Telephone & Telegraph Co., San Francisco, that its possibilities for solving interior decorating problems were fully realized.

The new building of the company on Howard street, with the exception of the exterior, is completely finished in lacquer enamel including walls, the trim, the ceilings, the concrete floors, the stairways. The main entrance to the general offices on the second floor is rendered extremely attractive by a harmonious arrangement of large panels of lacquered hardwoods and the entire treatment of the structure is such that it constitutes almost an education in itself in the possibilities for the use by the architect of this material.

Lacquer has been known for thousands of years. It is used extensively on countless articles in daily use. To the art of lacquering, the world owes much of the scientific knowledge gained from the perfectly preserved objects in the tombs of the kings of Egypt, while our museums are filled with lacquered objects of the ancient Chinese, Japanese and Hindus.

But it is only within recent times that the modern demand for speed in building, for a material to be used in decorating, which can be applied rapidly, will dry quickly, will present an everlasting, hard surface, and will be beautiful, has turned the eyes of the designer and builder to lacquer. Although there are in Los Angeles six buildings in which the entire metal trim was finished with lacquer more than 18 years ago, it is really only within the last year that the modern and better lacquers have been applied on any scale so lavish as that in which this company's products were employed in the Telephone Building, making its occupancy possible months earlier than would otherwise have been the case.

Lacquer and lacquer enamels are indispensable in the metal industries, being used for the prevention of tarnish and oxidation caused by atmospheric changes and to produce unique and beautiful finishes.

They are important in the finishing of wood, imparting a clear, lasting finish and excluding the entrance of moisture, eliminating all possibility of warping and swelling. Over 800 hardwood doors in the Telephone Building reveal the manner in which properly applied lacquer brings out the beauty of the wood, while its quick air-drying qualities make it extremely desirable to the builder who must conform to a strict time schedule. In the case of the miles of metal trim in the building, its application protects and decorates. It enhances the luster and coats the surface with a hard, durable, waterproof film which is impervious to the action of acids.

At a time when the demand for lacquer for modern building requirements is growing so rapidly, the establishment of its handsome new home in San Francisco is expected to make the new Egyptian building a Mecca for architects and others interested in a study of the lacquer technique.

LARGE LINOLEUM INSTALLATION

THE largest installation of linoleum ever made on the Pacific Coast was executed in its entirety within the past twelve months by D. N. & E. Walter & Co. Over 25,000 square yards of battleship linoleum was furnished and installed by them throughout the new 26-story Pacific Telephone and Telegraph Building, and 15,000 square yards in the new 16-story Pacific Gas and Electric Building. The best full $\frac{3}{16}$-inch thick Brown Walton Process Government Standard Battleship Linoleum was used and was neatly fitted in place by experts in the employ of this firm.

This linoleum is said to be the most suitable floor covering for public buildings, being durable, sanitary, resilient, and the artistic brown color forms a splendid ground for the massive office equipment and furnishings generally used in office buildings.

Since executing the aforementioned orders, the Walter Company has taken over the entire Pacific Coast business of the Bonded Floors Company, which comprised their stock as well as their organization, in consequence of which they are better equipped than ever to execute contract orders.

Other large installations of linoleums made by Walter & Company in San Francisco are:

22-story—Standard Oil Building.
15-story—Matson Building.
16-story—California Commercial Union Building.
15-story—Medical Dental Building.

They also furnished over 20,000 square yards for the San Francisco City Hall. This linoleum was installed about eighteen years ago and is today in first-class condition; in fact, since the installation it has not been necessary to replace a single yard.

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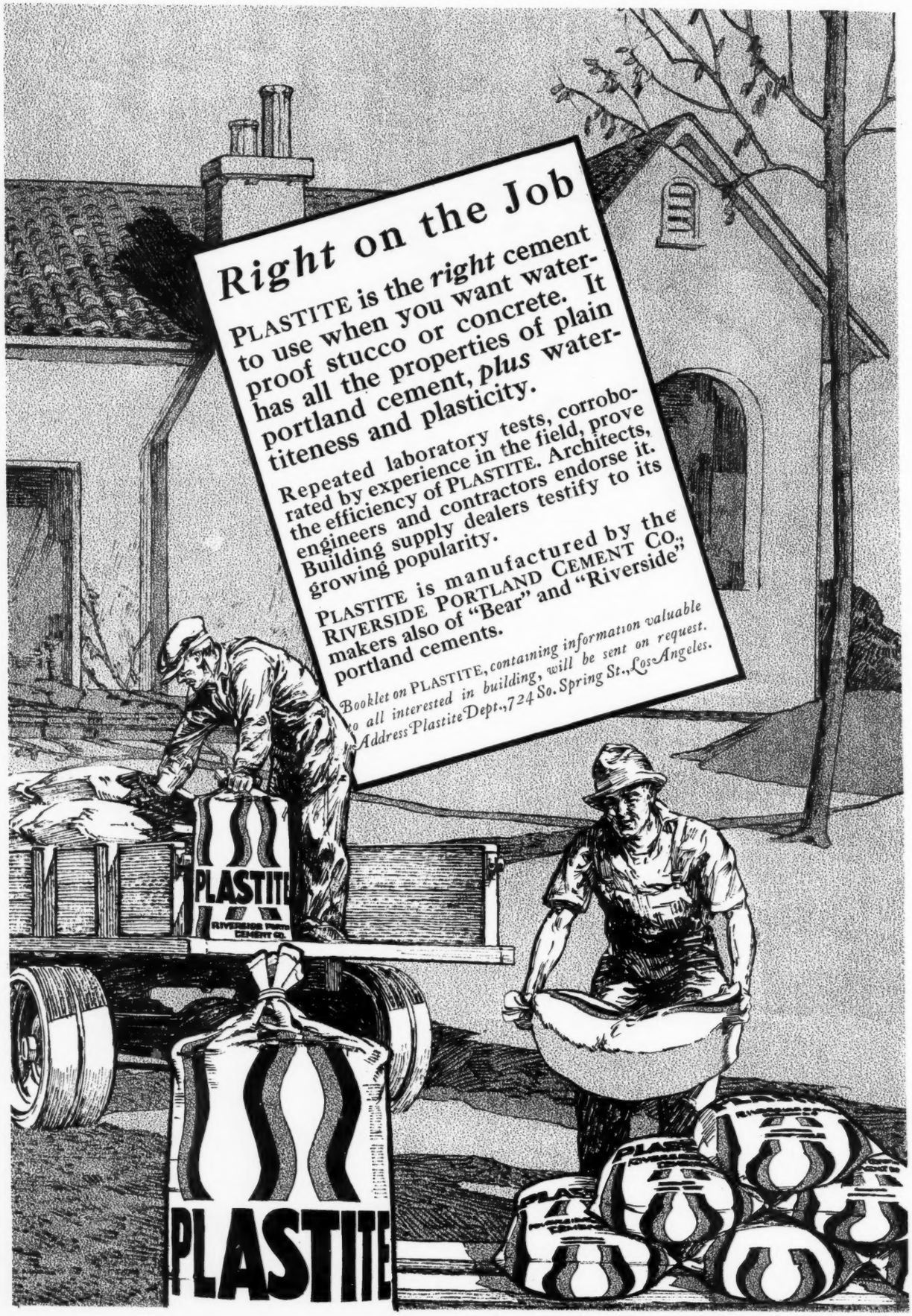
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·EDITORIAL·

East Meets West

FOR the first time in the history of the American Institute of Architects, its National officers and directors are visiting the far Western chapters as a body. President D. Everett Waid and his associates will spend two or three days in conference with each chapter, going from Seattle to Portland, San Francisco and Los Angeles in turn.

Such meetings cannot but result in greater harmony of purpose and action, and in more definite interest and information as to the aims and activities of the Institute. Moreover, it is always a privilege and a pleasure to meet men of such character and achievements as these nationally known architects. Their stay in San Francisco will be from December 8 to 10.

* * *

New Schools

THE January issue of the Pacific Coast Architect will be devoted to a selected showing of recent school buildings in California. The State may well be proud of its progress in the housing of educational facilities, both as to efficiency of equipment and excellence of architectural structure and design. The financial investment is very large, but the dividends in the usefulness of future citizens correspondingly great.

* * *

Better Ordinances

IN the Berkeley Daily Gazette recently was a thoughtful editorial based on the calm warnings of Prof. Bailey Willis, against neglecting earthquake precautions.

An excerpt:

> "The day is past when we can ignore the earthquake or not look forward to the time when we can expect another. Men of science know what to expect from the crust of the earth in our region on this continent and in other places throughout the world, just as they know the sections that can expect visitations from cyclones. In the latter regions the people make no secret of the fact that they have cyclone cellars and they streak for them the moment they observe one of those awesome, funnel-shaped clouds.
>
> "So why in the name of common sense shouldn't we of California admit we are in the earthquake belt and construct our homes and buildings as nearly resistant to earthquakes as it is humanly possible to do so? And the only way this can be effectively done is to put restrictions into our building codes."

This attitude is sensible and timely. Amendments are being made to the Palo Alto Building Code, along these lines, and the first draft of the new Santa Barbara Code goes very fully into the matter. Especially rigid are their requirements for the quality of concrete and cement mortar, the failure of which was responsible for so much of Santa Barbara's damage.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912

Of PACIFIC COAST ARCHITECT AND BUILDING REVIEW, published monthly at San Francisco, California, for October 1, 1925.

State of California } ss.
County of San Francisco }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Charles W. Meighan, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the PACIFIC COAST ARCHITECT and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of	Post Office Address
Publisher, Western States Publishing Corporation,	703 Market Street, San Francisco
Editor, Harris Allen	703 Market Street, San Francisco
Managing Editor, None.	
Business Manager, Chas. W. Meighan	703 Market Street, San Francisco

2. That the owner is: (If the publication is owned by an individual his name and address, or if owned by more than one individual the name and address of each, should be given below; if the publication is owned by a corporation the name of the corporation and the names and addresses of stockholders owning or holding one per cent or more of the total amount of stock should be given.)

Western States Publishing Corporation, 703 Market Street, San Francisco; A. Hoffman, 345 Battery Street, San Francisco; Harris Allen, 703 Market Street, San Francisco; H. Collier, 345 Battery Street, San Francisco; N. Brydone-Jack, 117 West Ninth Street, Los Angeles, Calif.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of the total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is..... (This information is required from daily publications only.)

CHARLES W. MEIGHAN, Business Manager.

Sworn to and subscribed before me this 29th day of September, 1925.

(SEAL) J. D. BROWN.

(My Commission expires April 4, 1926.)

The
Pacific Coast Architect
extends
Christmas Greetings
and best wishes for
A Happy New Year

SAN FRANCISCO CHAPTER AMERICAN INSTITUTE OF ARCHITECTS

MONTHLY BULLETIN

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NEXT MEETING

There will be no meeting on Tuesday, December 15, 1925, in the rooms of the San Francisco Architectural Club, 77 O'Farrell street, on account of the special meeting December 8.

NOVEMBER MEETING

The regular meeting of The American Institute of Architects, San Francisco Chapter, was called to order by President John Reid, Jr., at 7:30 p. m. on Tuesday, November 17, 1925, in the rooms of the San Francisco Architectural Club, 77 O'Farrell street. The following members were present:

John Reid, Jr., Rudolph A. Herold, Frederick H. Meyer, Wm. C. Hays, L. B. Miller, H. E. Burnett, John J. Donovan, Morris M. Bruce, Jas. H. Mitchell, P. J. Herold, Wm. A. Newman, E. H. Hildebrand, Jas. T. Narbett, E. J. Molera, John Galen Howard, Harris C. Allen, Ernest Coxhead, Wm. G. Corlett, H. H. Gutterson, E. B. Hurt, Walter M. Bliss, Sylvain Schnaittacher, G. F. Ashley, E. S. Norberg, Wm. Mooser, Earle B. Bertz, Albert Schroepfer, James Reid, J. S. Fairweather, Louis Mullgardt.

Mr. Reginald Johnson, Past President of the Southern California Chapter, A. I. A., was also present.

In the absence of the Secretary, Mr. Harris C. Allen was appointed Secretary *pro tem*.

MINUTES

The minutes of the previous meeting were accepted as published.

OLD BUSINESS

President Reid reported, regarding the visit of the A. I. A. directors, that, at President Waid's request, the tentative program would be amended to omit motor ride on Tuesday afternoon, December 8, setting a luncheon on that day for Institute members only, to discuss Institute business.

REPORTS

Chairman W. G. Corlett of the Committee on Practice reported on a circular letter of D. Zelinsky & Sons concerning Mr. H. H. Meyers, and offered a resolution as follows:

> Resolved, That the Secretary of the Chapter be instructed to write a letter to Mr. Meyers, informing him of the Chapter's approval of the principle involved in his action regarding the contract mentioned in D. Zelinsky & Sons' letter.

On motion, duly seconded, the resolution was carried, after being amended to read, "and condemns the action of D. Zelinsky & Sons in broadcasting this letter."

COMMITTEES

The Secretary read the following list of committees appointed by the President:

Practice: Will G. Corlett, chairman; John Bakewell, Jr.; Geo. W. Kelham, C. A. Tantau.

Relations with Coast Chapters: Sylvain Schnaittacher, chairman; H. A. Schmidt, G. F. Ashley.

Building Laws and Legislation: Frederick H. Meyer, chairman; Albert J. Evers, J. S. Fairweather, William Mooser.

Public Information and Entertainment: Harris C. Allen, chairman; Earle B. Bertz, Edward G. Bangs.

Education and Library of Architectural Club: Warren C. Perry, chairman; Edgar B. Hurt, Arthur Brown, Jr.

Membership: Wm. C. Hays, chairman; John J. Donovan, Henry H. Gutterson.

Competitions: Appointment to be made later.

NEW BUSINESS

President Reid appointed Mr. Hildebrand and Mr. Bruce to draw up a resolution concerning the death of Mr. August G. Headman.

President Reid introduced Mr. Reginald Johnson, former President of the Southern California Chapter, A. I. A.

A letter was read from Charles H. Gillespie, architect of New York, concerning proposed Roosevelt Memorial in Washington. Moved, seconded and carried that the Secretary write to Mr. Gillespie that the San Francisco Chapter considers that this action should come from the Institute, not being in the province of the Chapter.

President Reid introduced Mr. John Galen Howard, who gave the Chapter a delightful account of his recent extended sojourn in Southern France, Genoa, Sicily, Naples, Alexandria, Cairo, Palestine, Syria, Constantinople, Athens, Venice, Provence, Gascony and Paris.

There being no further business, the meeting adjourned.

Respectfully submitted,

ALBERT J. EVERS, *Secretary*

* * *

The Atlas Portland Cement Company reports that the following materials, no longer manufactured, are sometimes found in specifications: Blanc White Portland Cement, Berkshire White Portland Cement.

* * *

B. Reed Hardman and J. L. McCreery, Architects, are now located in the Berkeley Bank Building, Berkeley, California.

* * *

Arthur L. Acker, Architect, announces the removal of his office to 629 Petroleum Securities Building, 714 West Tenth Street, corner Flower Street, Los Angeles.

* * *

The Dalzell Hatfield Galleries, 3142 Wilshire Boulevard, invites members of the profession to an exhibition of sculpture depicting child life, which closes December 24th.

THE "LAST WORD" IN EQUIPMENT

[Concluded from page 8]

electrical contractors, both for the Coast Division Telephone Building and for the P. G. and E. Building.

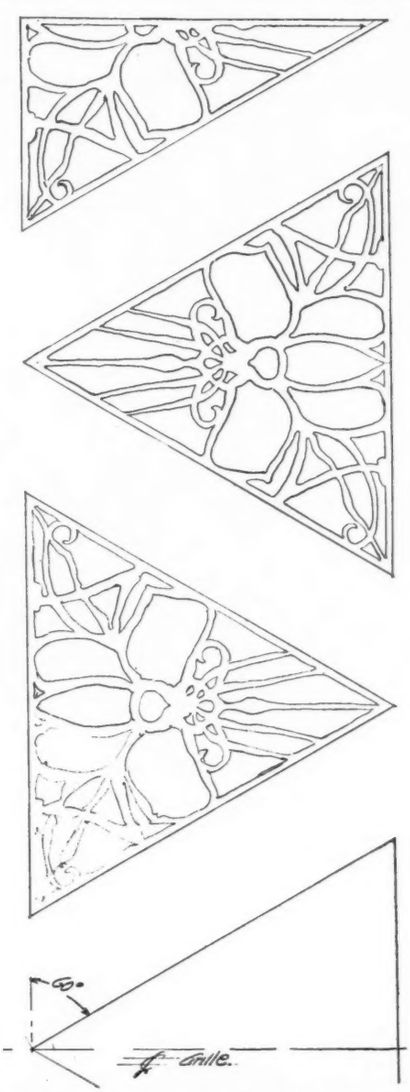
The Telephone Building is divided into two sections vertically and two riser shafts are provided for distribution. The latter is so versatile that it is possible to obtain any commercial electrical current at any room throughout the building for any purpose desired.

All public space lighting such as corridors, stairs, night and fire lights, etc., are controlled from main switchboard room. Each corridor lighting circuit has an individual push-button control and operating signal.

Exterior flood lighting, panel switching control is such that the 283 flood-light projectors can be divided into six separate groups for various effects or operated as a whole unit by a main oil switch or by six main circuit switches from main switchboard.

The fire alarm and watchmen's call system panels, controls, motor generator set and storage batteries are located in the main switchboard room. The system is of the presignal type and is connected to the city fire alarm system, the presignal circuits operating alarms at special building stations only. The general alarm circuits ring alarm gongs on all floors and also the city fire alarm. A fire alarm register records all calls and trouble bells indicate any fault in the system.

The watchmen's call system is divided into three groups or building sections with three register units. Both systems operate from the same control panels and storage batteries.



DETAIL OF VENT GRILLE, PACIFIC TELEPHONE AND TELEGRAPH CO. BUILDING

Main Entrance Doors—Pacific Telephone and Telegraph Co. Building
Miller & Pflueger, Architects. A. A. Cantin, Associate

Ornamental iron and bronze furnished in Pacific Telephone and Telegraph Co. Building, Huntington Apartments, Elks Building, San Francisco; and Hotel Senator, Sacramento, *by*

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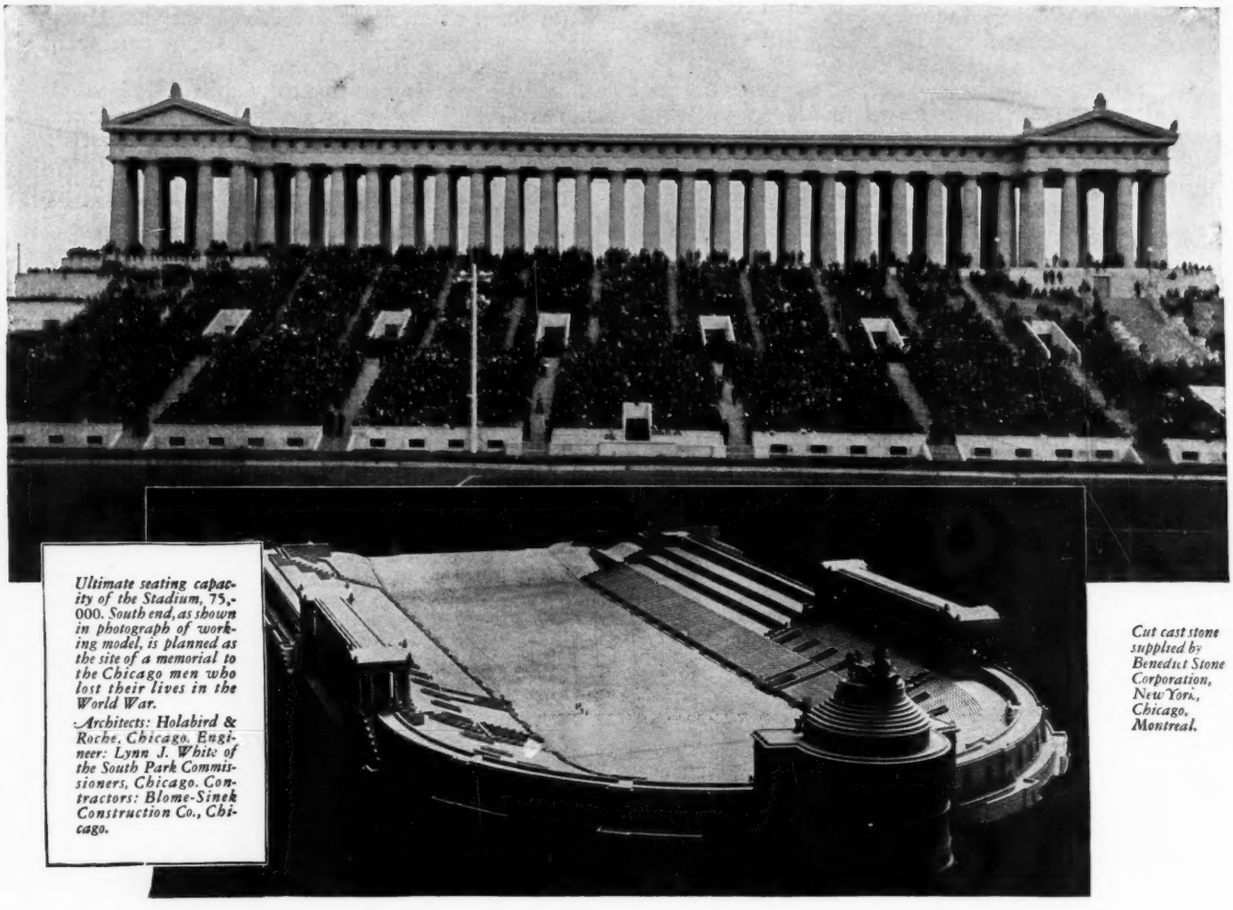

Ultimate seating capacity of the Stadium, 75,000. South end, as shown in photograph of working model, is planned as the site of a memorial to the Chicago men who lost their lives in the World War.

Architects: Holabird & Roche, Chicago. Engineer: Lynn J. White of the South Park Commissioners, Chicago. Contractors: Blome-Sinek Construction Co., Chicago.

Cut cast stone supplied by Benedict Stone Corporation, New York, Chicago, Montreal.

Ancient Greece in Modern Concrete

To those who still believe that the architectural beauty of the ancients can be expressed only in traditional materials, Grant Park Stadium, Chicago, will be a revelation.

This monumental structure takes you back to "the glory that was Greece." And it is done entirely in concrete. This includes the columns and other exterior architectural details, all of which are of cut cast stone. Thus beauty, as well as construction, is made permanent.

Grant Park Stadium is only one of a great variety of structures that impressively demonstrate the wide range of adaptability concrete offers to the architect—a range not within the possibilities of any other material.

* * *

If you are interested in receiving additional data on concrete in stadium construction, address the nearest office listed below. Ask for leaflets S-112 and S-104.

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LOS ANGELES CIVIC CENTER

[BY EDWARD G. LEAF]

THE Board of Supervisors of Los Angeles County by official action has approved and adopted the plan of the Allied Architects Association. This plan, prepared under contract with the city and the county, was presented for adoption on January 1 of this year, but in order to make certain that the problem had been handled in the best possible manner the board deferred its decision until such time as a thorough study of the needs of the county in this respect could be completed, and until other plans, prepared by individual architectural firms, could be examined.

The adoption of the great plan submitted by the Allied Architects Association, after nearly a year of the most intensive study of the problem, is of far-reaching significance. It means that nearly fifty square blocks of decrepit and worn-out buildings, relics of an earlier day, are to be wiped out, and the land which these buildings now occupy will become the property of the public, and as such will be beautified with parks, magnificent driveways, walks, public monuments, and great public buildings.

The decision of the county was made necessary by reason of the knowledge of the Board of Supervisors that within the near future a number of large and important county buildings must be erected, and that these structures should, if the best results were to be obtained, be erected with reference to a definite and comprehensive plan.

In the resolution by which the Board of Supervisors adopted the Allied Architects plan, the fact was brought out that within the next few years the county will require a great courthouse, to house the Superior Courts, a junior courthouse for the Municipal Courts, a public welfare building, an administration building, and an addition to the new Hall of Justice, already one of the largest and most imposing public buildings in the United States.

The resolution states that it is essential that these buildings be located so as to form a harmonious group; that the cost of so locating them will be no greater than placing them without regard to a plan; that each building must be so placed as to provide for proper vistas and park areas; and that in any plan adopted by the county, the problem of traffic and the parking of automobiles within the Administration Center area must receive the most careful attention.

The Allied Architects plan, worked out with the assistance of the Los Angeles Traffic Commission, and fully indorsed by that body, meets all of these requirements, the resolution says, and the board has therefore made it the official county plan, with only the reservation that the plan will be subject to modification, if and as future conditions require.

In adopting this plan, the Board of Supervisors is taking advantage of an opportunity afforded few of the large cities of the country. A long, comparatively narrow and gently rising eminence, known as Bunker Hill, extends from the vicinity of the old Plaza, the original center of Los Angeles, southward, to the edge of the new and well-improved business district. Originally the fine residence district of the city, this hill has deteriorated until it is now the haven of the cheaper class of apartments and boarding houses.

Under the Allied Architects plan, now the official county plan, this hill will be cleared and in parts regraded; it will be surrounded with a series of great boulevards, and sites will be provided at commanding points for

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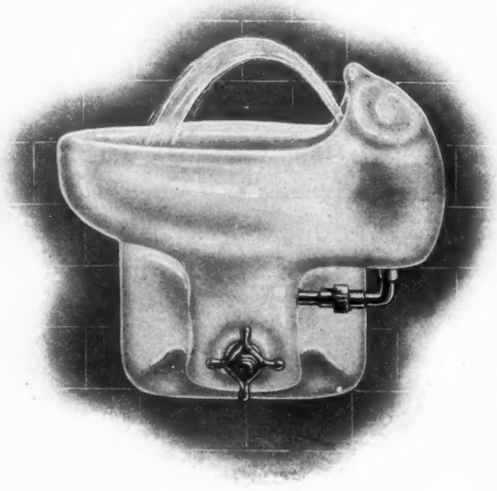

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buildings of a cultural and semipublic character. The administrative buildings of the various governments will be located to the east of the hill, in the vicinity of the original Plaza and Plaza Church. Thus, not only will an Administration Center of surpassing beauty be created, but all of the original historic section of Los Angeles will be suitably preserved for all time.

The plans of the Allied Architects Association, an organization of seventy practicing architects of Southern California who banded together to give the various governments the best in architecture at the minimum cost, were completed after nearly a year of arduous work and study, and in their finished form the plans represent the efforts of men who have devoted many years to the study of design and composition. For this work the association is receiving the sum of $1 remuneration, the preparation of these plans having been undertaken as a community service, with no thought of the aggrandizement of the organization or of any individual member. Furthermore, the association will, in the future, stand in exactly the same position as any individual architect or architectural firms when it comes to the matter of obtaining contracts for the architectural services on any building to be erected in the center.

When the Administration Center becomes a finished thing, it will stand not only as a monument to the enterprise and vision of the City and County of Los Angeles, but as a monument to the unselfish service of the architectural talent of Southern California.

(NOTE—Reproductions of these plans were published in the Pacific Coast Architect March, 1925.)

* * *

MODERN HEATING PROBLEMS

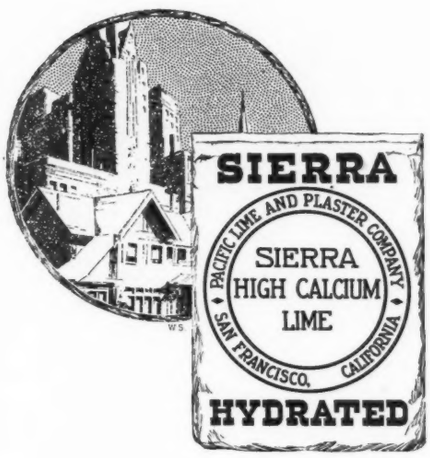
[Concluded from page 53]

meet individual needs and flexible enough to meet sudden demands for warmth or to remain idle for long periods of time and yet be instantly available.

Radiant gas heaters should always be vented or should be installed in the fireplace, which accomplishes the same purpose. They are safe, clean and give intense heat at surprisingly small expense. They are instantaneous in action. Properly installed, they accelerate natural ventilation of the room. Then there are the gas floor furnaces which may be lighted or adjusted to give any desired room temperature by simply touching the convenient valve. They are extremely flexible, highly efficient and operate at a minimum cost. There are the gas radiators, which should in every case be vented, which have their advantages and are supplanting many central heating plants, especially in apartments and office buildings where they meet every heat requirement of the individual tenant without making it necessary to heat the entire building at all hours, when perhaps only a few of the rooms in that building are occupied.

In conclusion, it may be said that every new building presents its own heating problem and certainly among the three groups whose functions are briefly described here, one can find the ideal, practical type, appliance or system best suited to his purpose.

Codes of installation have been so well standardized and gas companies, the Gas Appliance Society and the reputable heating contractors or dealers maintain such efficient specialists to give help and study in meeting any problem that might arise that there is scant excuse for the too large proportion of mistakes in selection and installation which are made almost every day by those responsible for the design of new buildings. Whether warm-air furnaces, steam and hot-water boilers, or any of the miscellaneous small appliances are desired, we should avail ourselves of the practical help of these practical men, which is so freely offered us.



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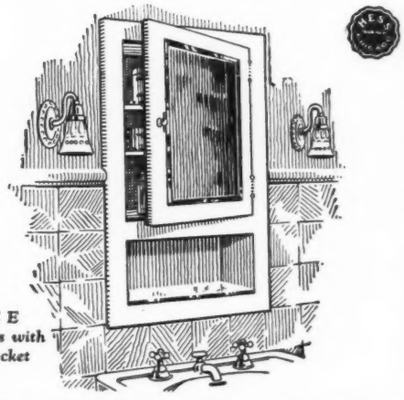

STYLE E
to recess with open pocket below.

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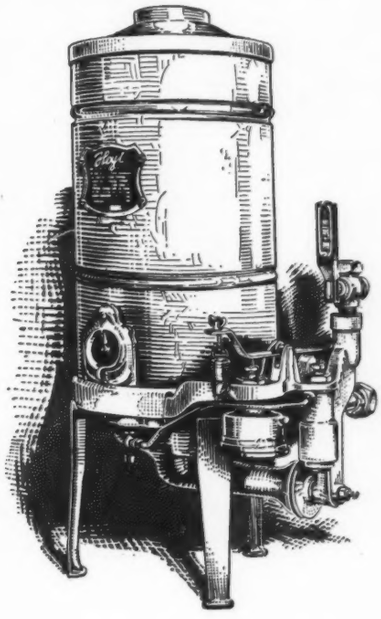

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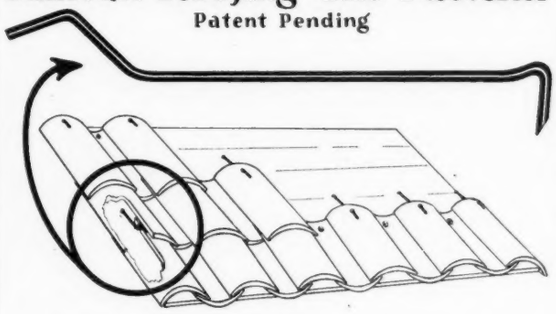
This booklet, telling the builder "What He Should Know About Plastering," contains 24 pages of interesting pictures and text. We will gladly furnish architects with copies for distribution to clients.

Sullivan Roofing Tile Fastener

Patent Pending



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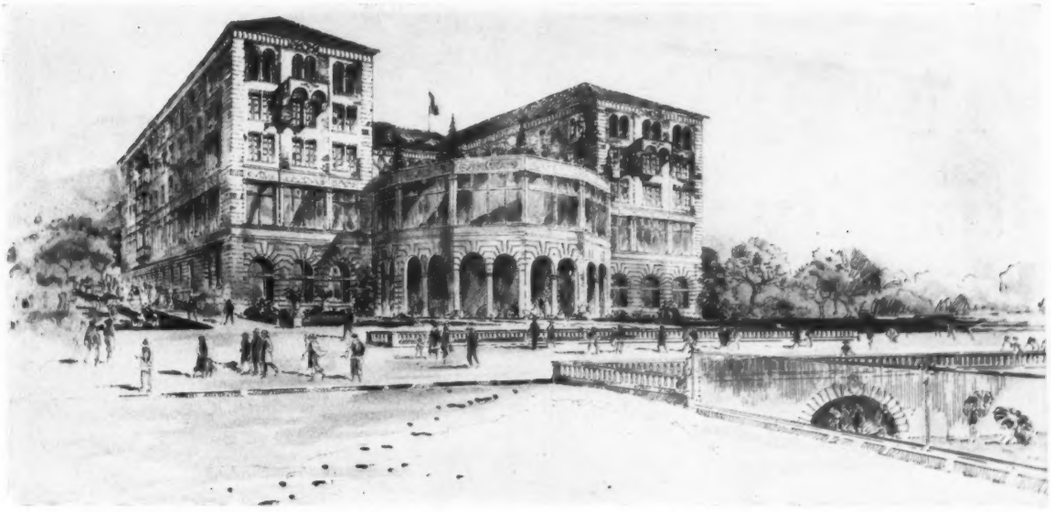

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California White Pine (trade name)

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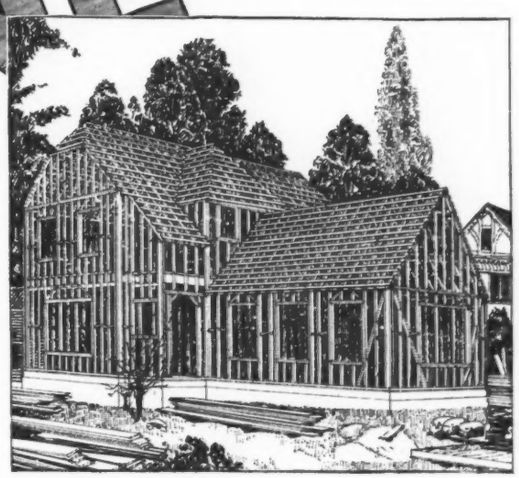

Dependable framing of proven strength and durability

A BOOK on the requirements for house construction issued by the U.S. Bureau of Standards from data supplied by U.S. Forest Products Laboratory, Madison, Wisconsin, classes California White Pine, as structural material, with the white pine of the Lake States and New England, which was for generations the main construction material of a great portion of the United States. The strength and durability of white pine has been amply demonstrated.

Aside from its strength and rigidity, California Pine has many virtues which recommend it strongly for framing—the same qualities that lead carpenters to prefer it to many other framing woods. It does not warp or twist. It is light in weight, which insures economical handling. Its soft texture and even grain make easy cutting and sawing. It holds nails tightly and does not split. It works up with little or no wasted material. It enables more accurate workmanship. In short, California Pine provides an ideal construction wood for homes and every other kind of moderate size structures.

Soft texture and even grain of California Pine make easy cutting and sawing—clean edges with no splintering

Carpenters like to work with California Pine because of its light weight. This quality also insures economical handling

"Corky" texture of California Pine enables nailing without splitting—right up to the very edge. Nails hold firmly

If you have not received a set of our Information Sheets on California Pine, let us send them to you. You are also invited to correspond with our Wood Technologist, formerly with the U.S. Government Forest Products Laboratory at Madison, Wis., and now connected with this Association.

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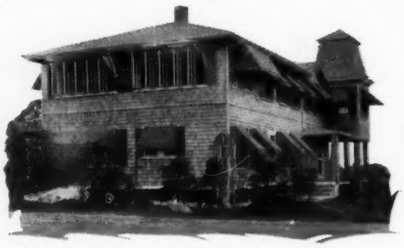
WHITCO—and Screens



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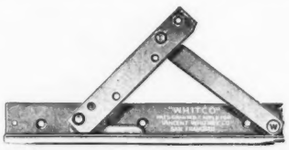

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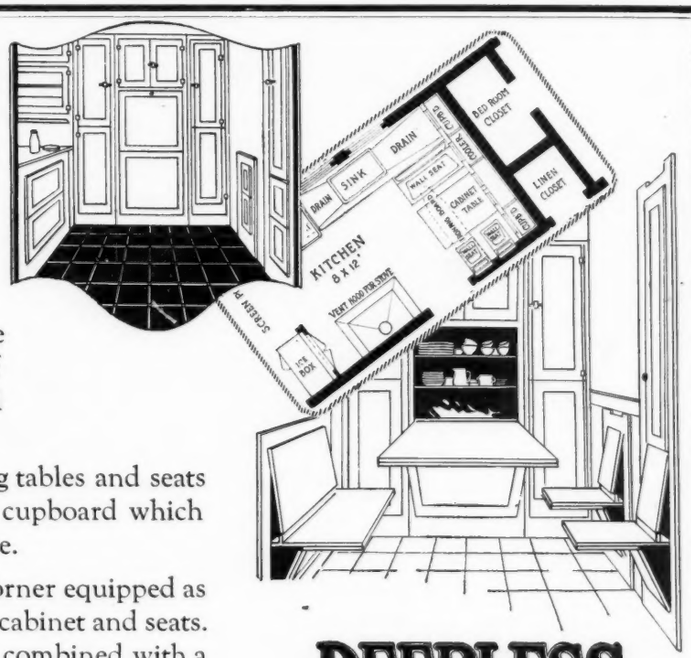
Make your house *smaller* and get more *room*



Yes, you can actually take the average house floor plan, cut down the size of the kitchen and still get more real usable floor space.

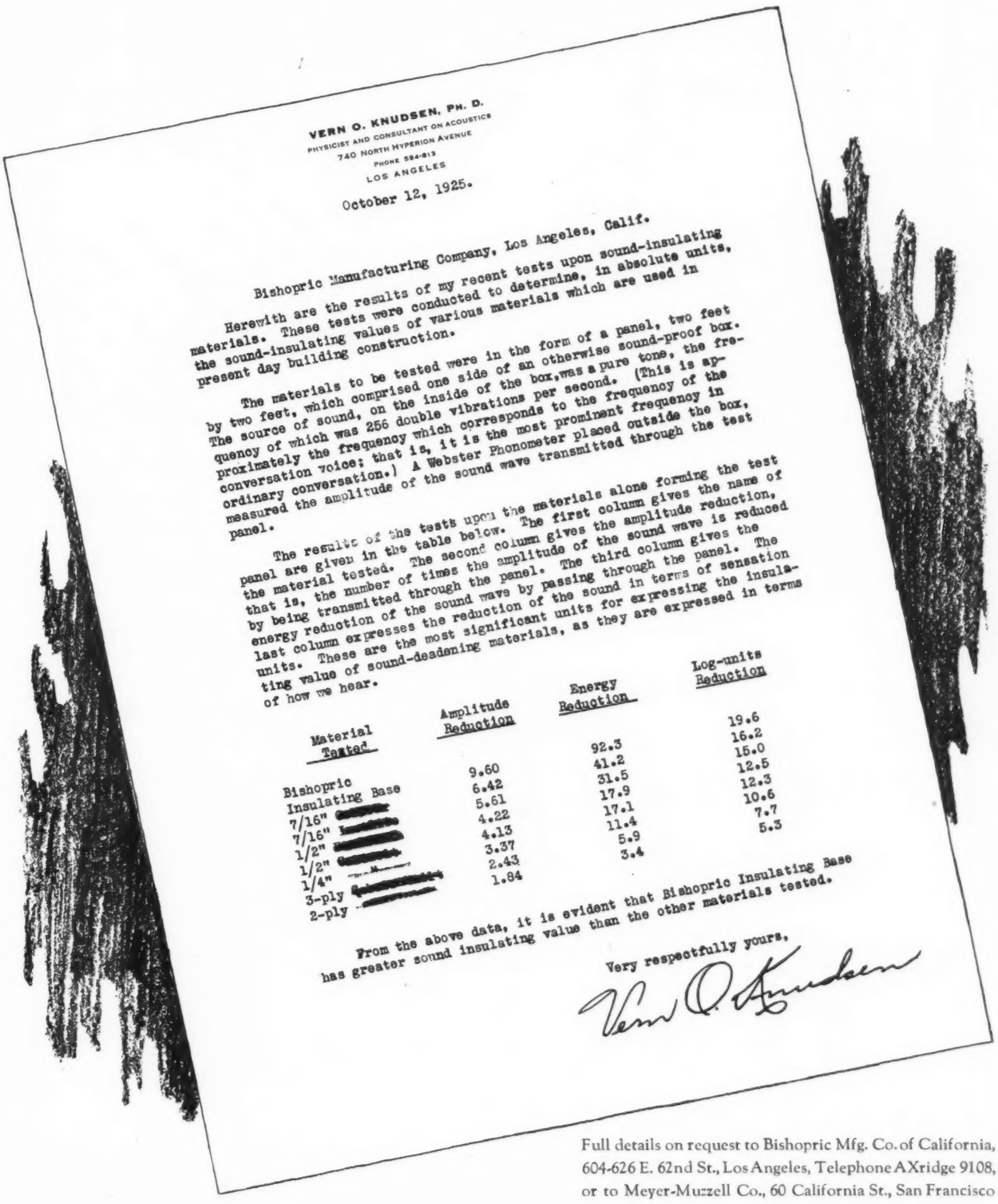
How? With Peerless built-in folding tables and seats and Peerless kitchen cabinets and cupboard which use *wall* space instead of floor space.

The illustrations show a kitchen corner equipped as a breakfast nook with Peerless table-cabinet and seats. The seat nearest you on the right is combined with a folding ironing board.

Altogether there are more than fifty Peerless devices. They are sold by a dealer in your city. Write for his name and a copy of "The Book of Built-in Furniture."

PEERLESS
Built-in Furniture
Manufactured by
BUILT-IN FIXTURE CO.
2608 San Pablo Avenue, Berkeley, Calif.

Bishopric *Insulating* Base
Deadens Sound!



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LOS ANGELES

October 12, 1925.

Bishopric Manufacturing Company, Los Angeles, Calif.

Herewith are the results of my recent tests upon sound-insulating materials. These tests were conducted to determine, in absolute units, the sound-insulating values of various materials which are used in present day building construction.

The materials to be tested were in the form of a panel, two feet by two feet, which comprised one side of an otherwise sound-proof box. The source of sound, on the inside of the box, was a pure tone, the frequency of which was 256 double vibrations per second. (This is approximately the frequency which corresponds to the frequency of the conversation voice; that is, it is the most prominent frequency in ordinary conversation.) A Webster Phonometer placed outside the box, measured the amplitude of the sound wave transmitted through the test panel.

The results of the tests upon the materials alone forming the test panel are given in the table below. The first column gives the name of the material tested. The second column gives the amplitude reduction, that is, the number of times the amplitude of the sound wave is reduced by being transmitted through the panel. The third column gives the energy reduction of the sound wave by passing through the panel. The last column expresses the reduction of the sound in terms of sensation units. These are the most significant units for expressing the insulating value of sound-deadening materials, as they are expressed in terms of how we hear.

Material Tested	Amplitude Reduction	Energy Reduction	Log-units Reduction
Bishopric Insulating Base	9.60	92.3	19.6
7/16" [redacted]	6.42	41.2	16.2
7/16" [redacted]	5.61	31.5	15.0
1/2" [redacted]	4.22	17.9	12.5
1/2" [redacted]	4.13	17.1	12.3
1/4" [redacted]	3.37	11.4	10.6
3-ply [redacted]	2.43	5.9	7.7
2-ply [redacted]	1.84	3.4	5.3

From the above data, it is evident that Bishopric Insulating Base has greater sound insulating value than the other materials tested.

Very respectfully yours,

Vern O. Knudsen

Full details on request to Bishopric Mfg. Co. of California, 604-626 E. 62nd St., Los Angeles, Telephone AXridge 9108, or to Meyer-Muzzell Co., 60 California St., San Francisco

WHY NOT MORE HOMES OF BRICK?

MANY Californians who have visited the East and Middle West recently tell of interesting progress made in the more modern towns and cities in types of residential construction. According to accounts appearing in periodicals devoted to the building industry, they have been especially struck with the liberal and artistic use of brick in home designing.

Could not California profitably follow this example? There is perhaps no other region in the world to compare with this in its architectural opportunities. California leads in attractive home-building effects. Everything here lends itself to variety and charm. One may have green trees and flowers blooming the year 'round. There are hills, valleys and seashore. Free rein given to the fancy of home builders has resulted in much that is original and unique.

There should be variety, also in the materials as well as in the designs. Those who have seen what marvels have been wrought in Eastern communities, in the use of many kinds of brick, are strongest in advocating more of this style of construction here.

There is perhaps no home-building material more durable than this. There are many striking examples of this in California; brick houses of pueblo days still stand practically unimpaired by use, weather and other vicissitudes. Many persons in this state who have made the Panama Canal trip doubtless recall a cathedral arch in the zone built of brick, which has withstood storm, time and earthquake shock for more than a century, and still rears it graceful span, as firm and true as on the day it was built.

Brick construction, it has been found, is proof against elements which cause other types of construction to deteriorate. If the bricks are properly mortared, the endurance and integrity of the building are assured. Wherever a brick building is found to be weak, defective mortar is the cause.

Brick making is a great industry in California; it shou'd be encouraged. Brick makers here are original and progressive, and equal any in the world in quality as well as in pleasing effects. A larger use of their products will enhance the attractiveness of our state.—Los Angeles Examiner.

why not?

THERE have been many changes in the building situation in California since this editorial appeared. The day of brick for building has arrived. When it comes to building materials, people are learning that the best is sometimes the cheapest.

Look about you at the many new brick homes right in your own neighborhood. Brick houses are easier to rent and easier to sell. People prefer brick houses because they're beautiful, comfortable and safe. Owners prefer brick because it means freedom from depreciation, painting and repair. Before you build—let us give you the facts about brick.

Telephone, write or call for illustrated literature of interest to architects.

CALIFORNIA COMMON BRICK MANUFACTURERS ASSOCIATION

Los Angeles · San Francisco

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FOR BETTER BUILDING

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Manufacturers of **Old Mission Portland Cement and Old Mission PLASTIK WATERTITE Portland Cement**

Main Office: Standard Oil Building
San Francisco

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The Pacific Telephone and Telegraph Company's new Coast Division Building is equipped with nine OTIS high speed Signal Control passenger elevators, representing the latest development in vertical transportation.

Otis Elevator Company

Main Executive Office and
Plant for the Pacific Coast

San Francisco

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